Ascotel IntelliGate Communications Systems

2025
2045
2065

System Description

AASTRA

Content

This document describes the Ascotel IntelliGate telecommunication system I7 as of SW version 7.0

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System characteristics

Ascotel IntelliGate 2025/2045/2065 is a communications system for professional use in businesses and organizations operating in all industries with subscriber numbers ranging between 7 and 400 subscribers or even with up to 600 subscribers in the case of an Ascotel IntelliGate Net (AIN). With its networking capability the system is particularly well suited for companies that operate in several locations. Coverage can even be extended to the smallest branch offices at low cost.

Voice communication technology is currently undergoing a major leap forward. New technologies such as Voice over IP (VoIP) are becoming increasingly important for small and medium-sized companies, too. A modern communications system must offer the customer the option of implementing the new technology or continuing to rely on conventional telephony. He must have the choice not only of migrating from conventional to VoIP, but also of using a mix of both technologies.

And that is precisely one of the main strengths of Ascotel IntelliGate. As hybrid IP systems they handle both technologies with similar ease.

With the use of VoIP within the company, voice and data can be transmitted simultaneously via the local data network and/or the internet. No further investments into an additional and cost-intensive telephony installation is required.

Adaptability – the system's outstanding characteristic

Ascotel IntelliGate systems are so versatile they adapt perfectly to customers' current and future communication requirements:

- Customers are free to choose whether they want to use VoIP or traditional telephony. The simultaneous use of traditional and IP-based terminals is possible at any time. Existing Ascotel IntelliGate systems can be complemented with VoIP and expanded with IP terminals.
- Adaptability is also required when it comes to choosing the public network provider. In the past, telecom providers have implemented the network access exclusively via ISDN or analogue exchange lines. A new, attractive possibility is to provide the network connection using IP-based broadband connections. Ascotel IntelliGate systems support this connection type. They use the SIP protocol (for Session Initiation Protocol), a standard now widely established in Europe.
- A modern communications system must be capable of precisely replicating a company's organisational structure. This also applies to its geographic structure. Here again, Ascotel IntelliGate systems are very adaptable. They can be operated as single systems or in a networked configuration comprising several locations.
  Company locations can be integrated into a homogeneous communications system. Versatile networking technologies and network functions make for communication networks that fulfil virtually every requirement in terms of operating costs and user convenience.
  The networking type focuses on a technology which allows the use of the company's existing data network for company-wide voice traffic. The AIN technology (Ascotel IntelliGate Net) implemented by Aastra Telecom integrates the individual Ascotel IntelliGate nodes to create a homogeneous communications system. The users connected to the voice network are able to reach all the other employees throughout the network as if they, too, were on site.
- Finally, adaptability is also the keyword when it comes to deciding how and where a communications system should best be sited and installed.
  Thanks to its compact assembly Ascotel IntelliGate can be wall mounted or installed in a 19-inch cupboard with other communication and network components. The rack versions of the Ascotel IntelliGate systems are designed for the latter variant. All the interfaces of the basic systems and expansion cards are accessible on the front panels. Depending on the configuration, expansion front panels may be required for a 2065 system.

Modularity – the system that grows along with your company

The core of Ascotel IntelliGate systems consists of hybrid IP communication platforms for different expansion capacities. The system concept is modular throughout, expanding according to requirements to incorporate other subscribers, additional exchange lines and specific supplementary functions. Expansion cards are used to grow the system. Some supplementary functions require the purchase of a licence.

Besides the interfaces for connecting the very high-performance, user-friendly Office terminals, digital and analogue standard interfaces are also used to connect the wide range of commercially available voice and data terminals. Ascotel IntelliGate is ideally compatible with digital and analogue telephone sets, modems, computers, fax machines and door intercoms.

LAN interface(s) are used to connect the system with the customer's IT infrastructure and the internet.

The power open OIP interface (Open Interfaces Platform) also allows Ascotel IntelliGate to be expanded further using dedicated third-party applications. External server-based applications are used for instance in professional call centres, monitoring and alarming systems, etc.

Customer proximity and availability – key requirements for customer-oriented enterprises

If customer proximity, maximum availability and efficient call handling are key aspects of your business operations, then Ascotel IntelliGate is the perfect communcations system for you.

Ascotel IntelliGate offers a multitude of integrated features and applications. They are all designed to make internal and external communication processes efficient and user-friendly.

All the Office terminals are operated intuitively and in the same way, standard telephony and switching functions are easy to use, and there is no longer any need to reach for the Operating Instructions.

The telephone-computer combination is possible at any time. This allows staff to control their phone connections directly from their workstation PCs. An interesting example is the possibility of dialling an outside subscriber directly from the computer's address file (e.g. Microsoft® Outlook).

The use of standards – whatever the environment

Ascotel IntelliGate systems are open communication platforms that use and support internationally defined standards. Compliance with standards is a prerequisite for ensuring that communications systems are also compatible with terminals and equipment by other manufacturers. Standards also ensure a seamless integration into the existing IT environment and connection to the public switching networks.

Key standards supported by Ascotel IntelliGate include:

- SIP (Session Initiation Protocol) – the most important standard for setting up IP-based communication connections
- DECT (Digital Enhanced Cordless Telephony) – the standard for cordless telephony within office buildings
- GAP (Generic Access Profile) – standardized interface for integrating DECT terminals by other manufacturers

- QSIG – the protocol for networking switching systems of different manufacturers
- Microsoft® TAPI (Telephony Application Programming Interface) – the interface for integrating the world of telephony with the world of data

Mobility – new ways of working call for new communication solutions

MOBILITY is writ large at Aastra. New forms of co-operation demand new solutions. Mobile personnel on the move within or outside the company can also be integrated into Ascotel IntelliGate using cordless DECT, GSM or WiFi handsets.

The appropriate mobile terminals are available for each particular working environment. Compact and attractively styled handsets for office environments or sturdier handsets for industrial environments are available.

Efficient system administration – for keeping operating costs low

Once in operation, Ascotel IntelliGate systems perform reliably and dependably. However organizational changes, additional workstations, etc., mean that the communication infrastructure has to be able to adapt flexibly.
Ascotel IntelliGate is highly versatile in this area, too. A workstation can be set up, repositioned or complemented with little effort. It's all made possible by professional administration and configuration tools designed for the installer and the customer, too.

Frequent changes such as updating the main phone book can be made by the customer himself. More extensive changes however are carried out by technical personnel.
Configuration changes can be made without problem on site but also by remote access. The advantage of remote configuration is that the technical staff does not have to travel to the business premises.

If maximum availability is a crucial requirement for the customer, he can arrange for Ascotel IntelliGate to be monitored by specialists around the clock. Any faults are then detected early on and remedied before they cause problems.

System components

The modular Ascotel IntelliGate systems can be expanded at any time and, with a minimum of effort, adapted to any changes within the company and in market requirements. This adaptability is enhanced in particular by the possibility of networking several Ascotel IntelliGate systems via IP into a single Ascotel IntelliGate Net (AIN) and of integrating remote individual workstations with IP system terminals into the telephone network. Integrated interfaces and perfected functionality provide a maximum of flexibility during configuration.

Communication systems

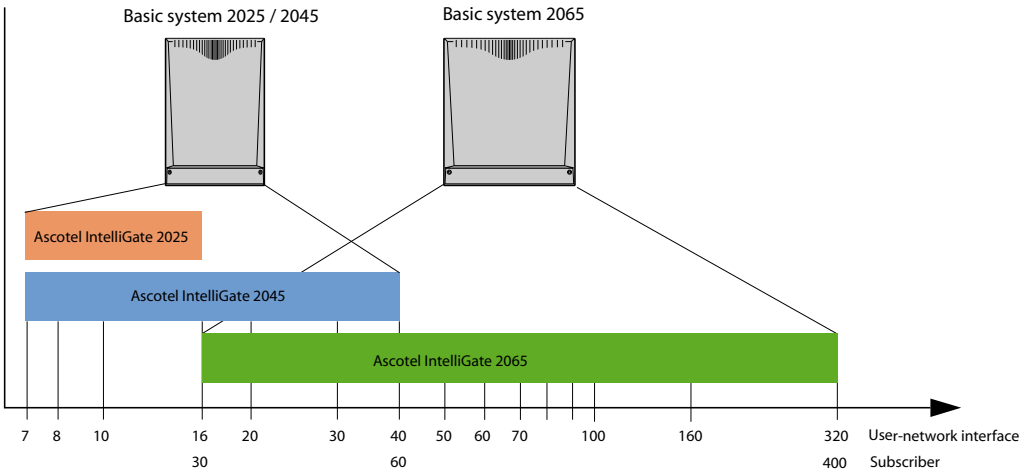
Ascotel IntelliGate 2025/2045/2065 is a family of communication systems. This hybrid IP-PBX is suitable for both IP-based and traditional communication solutions. Ascotel IntelliGate is available for wall mounting and in a 19" rack version for installation in a communication cabinet.

Ascotel IntelliGate's three systems are based on two basic systems. One shared system for Ascotel IntelliGate 2025 and 2045, and a separate system for Ascotel IntelliGate 2065.

Ascotel IntelliGate is available for wall mounting and in a 19" rack version for installation in a communication cabinet.

The Ascotel IntelliGate system product range includes digital and analogue trunk and subscriber cards as well as special cards, e.g. for the IP Gateway, the Voice Mail System, etc.

Basic Systems



Ascotel IntelliGate Basic systems

The 2025 / 2045 basic system is already equipped with 7 user-network interfaces and 3 switchable ISDN interfaces, with an additional 5 slots available for expansion cards.

All five expansion slots can be equipped on both Ascotel IntelliGate 2025 and Ascotel IntelliGate 2045. The two systems differ in system limits. An Ascotel IntelliGate 2025 can be upgraded to an Ascotel IntelliGate 2045 through the purchase of the appropriate licence. As a result the system limits are increased and the system can be expanded further.

Ascotel IntelliGate 2065 is the family's big brother, with a total of 14 expansion slots, but without user-network interfaces and network interfaces in its basic configuration.

Both basic systems feature an Ethernet interface (e.g. for connecting a CTI server, a Messaging server, an Alarm server, AIMS, IP system terminals, SIP terminals etc.) There are also two V.24 interfaces (e.g. for connecting a printer) an audio input (e.g. as a socket for an external music source and a potential-free relay contact for hooking up a general bell).

Interfaces of the basic systems

	a/b	S/T (individually switchable)	AD2	V.24	Ethernet interface	Audio input	Relay for General bell
Basic system 2025 / 2045	3	3	4	2	1 (10 Base T, half duplex)	1	1
Basic system 2065	-	-	-	2	1 (10 / 100 Base T, half duplex)[1)]	1	1

[1)] On processor card MPC-8260

Resources of the basic systems

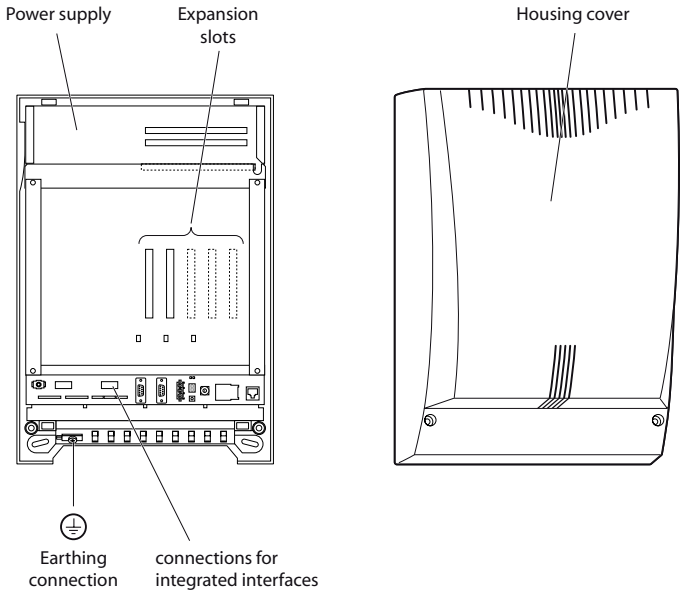
	Three-party conferences	Six-party conferences	Courtesy (Announcement prior to answering)	DTMF transmitter	DTMF receiver	Internal music
Basic system 2025 / 2045	3	1	1 Group with 3 announcements[1)]	6	4	1 wav file[1)]
Basic system 2065	10	4	2 Groups with 3 announcements[1)]	26	16	1 wav file[1)]

[1)] The max. duration is limited by the reserved storage space in the file system.

2025 / 2045 basic system

The 2025 / 2045 basic system provides the basis for the systems Ascotel IntelliGate 2025 and Ascotel IntelliGate 2045. It consists of the following components:

- 2025 / 2045 housing
- Main board 2025 / 2045 (incl. power)
- Memory cards

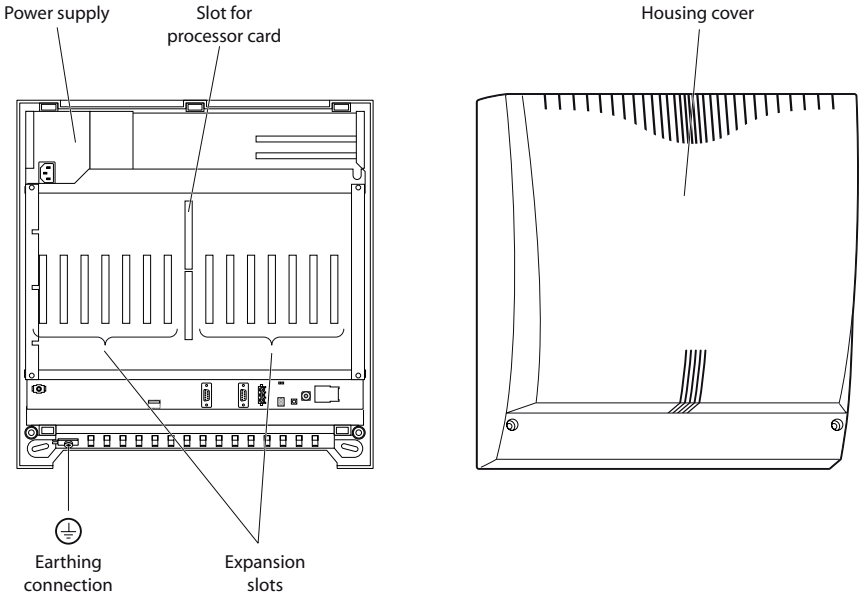


2025 / 2045 basic system

2065 basic system

The 2065 basic system provides the basis for the Ascotel IntelliGate 2065 system. It consists of the following components:

- 2065 housing
- Main board 2065 (incl. power)
- Processor card MPC-8260
- Memory cards



2065 basic system

Technical Data of the Basic Systems

Dimensions and weights of the basic systems

	Basic system 2025 / 2045	Basic system 2065	2025R / 2045R[1] basic system	2065R[1] basic system
Height	460 mm	460 mm	222 mm	
Width	320 mm	445 mm	485 mm	
Depth	187 mm	187 mm	515 mm	
Weight (excl. mains cord, expansion cards and packaging)	5,3 kg	6,9 kg	15.8 kg	17.4 kg

[1] Rack version

PBX location requirements

	Location requirement
Heat radiation	• Do not position the PBX in direct sunlight or near heating sources
EMC	• Do not position the PBX in strong electromagnetic fields of radiation (e.g. near x-ray equipment, welding equipment or similar).
Convection	• Observe the clearance requirements with the PBX • Provide ventilation slots of approx. 600 cm2 each at the top and bottom of built-in cabinets
Environment	• Room temperature 5...35 °C • Relative humidity 30…80%, non-condensing

Electrical data, basic systems

	Ascotel IntelliGate 2025(R) / 2045(R)	Ascotel IntelliGate 2065(R)
Class of protection	1	
Input voltage	230 VAC (195 V…253 V, 48…62 Hz)	
Input current	0.5 A	1.0 A
Mains fuse-unit	630 mAT G	1,6 AT G
Resistant to voltage breaks	< 30 ms	
Resistant to voltage dips to < 80%	< 30 ms	
Power input with min. configuration	approx. 14 W, 22 VA	approx. 20 W, 31 VA
Power input with max. configuration	approx. 70 W, 110 VA	approx. 135 W, 210 VA
Undervoltage limit (system reset, data backup)	< 190 V	

Power supply module

In addition to the power supply via the 230 V mains network an optional DC power supply module UPS-12V is also available for an uninterrupted power supply from a 12V buffer or central battery.

Each system can be complemented with a power supply module. This does not take up an expansion slot.

Auxiliary Terminal Power Supply (ATPS)

The integrated power supply of the basic systems is rated for an average system expansion. An external Auxiliary Terminal Power Supply (ATPS) is available for system expansions with large numbers of terminals with high power requirements (e.g. many DECT radio units without their own power supply units). The ATPS power supply is powered by the 230 V mains.

It is not possible to use ATPS and a DC supply module UPS-12V at the same time. An external UPS or an inverter is required to be able to ensure uninterruptible operation when using an ATPS system.

Expansion cards

A full complement of expansion cards consisting of trunk cards, subscriber cards and special cards connects the system with its environment, or enables special functions. The expansion cards are the same for all Ascotel IntelliGate systems (including rack versions). With the exception of the ISDN-02PRA trunk card, any card can be used in any system provided, however, only as many interfaces are enabled as permitted by the limits of expansion.

Basic systems and number of expansion slots per system

[1] system	Basic system	Expansion slots
Ascotel IntelliGate 2025	2025 / 2045	5
Ascotel IntelliGate 2045	2025 / 2045	5
Ascotel IntelliGate 2065	2065	14[2]

[1] Information also applies to the rack version

[2] An additional slot (No. 8) is reserved for the processor card.

Trunk cards

The trunk cards contain interfaces for connection to the analogue or digital public network (ISDN), or for networking PBX systems to create a private communications network. The ISDN-0xPRA cards feature primary rate accesses which can be configured for both the public ISDN network (DSS1 protocol) and a private leased line network (QSIG / PSS1 protocol).
On the ISDN-04ST and ISDN-08ST cards each interface can be individually configured as a network interface (T) or as a user-network interface (S).

Number of trunk cards per PBX

Card	Network interfaces per card	Max. number of trunk cards for		
		Ascotel IntelliGate 2025[1)]	Ascotel IntelliGate 2045[1)]	Ascotel IntelliGate 2065[1)]
ISDN-04ST	4 x S/T	1	2	8
ISDN-08ST	8 x S/T	1[2)]	1	8
ISDN-01PRA	1 x T2	1	2	8
ISDN-02PRA	2 x T2	-	1	8
TC-04AB	4 x a/b	1	2	8

1) Applies also to the rack version

2) Due to the system limits not all the interfaces can be used

Subscriber cards

Subscriber cards are used for connecting analogue and digital voice and data terminals such as:

- Office Terminals, DECT Radio units, Pocket Adapter (AD2)
- Standard ISDN devices, Paging system (S)
- Analogue phones, fax machines, answering machines, external Voice Mail interfaces (a/b)

Number of subscriber cards per PBX

Card	User-network interfaces per card	Max. number of subscriber cards for		
		Ascotel IntelliGate 2025[1)]	Ascotel IntelliGate 2045[1)]	Ascotel IntelliGate 2065[1)]
SC-04AD2	4 x AD2	2	4	14
SC-08AD2	8 x AD2	1	2	14
SC-16AD2	16 x AD2	1[2)]	2	14
SC-24AD2	24 x AD2	1[2)]	1	13
SC-32AD2	32 x AD2	1[2)]	1	10
SC-04AB	4 x a/b	2	4	14
SC-08AB	8 x a/b	1	2	10
SC-16AB	16 x a/b	1[2)]	1	10
ISDN-04ST	4 x S/T	1	2	8
ISDN-08ST	8 x S/T	1[2)]	1	8

1) Applies also to the rack version

2) Due to the system limits not all the interfaces can be used

Special cards

Special cards are used in the following cases:

- QSIG networking in an IP network (AIP-6400)
- Provision of VoIP interfaces in an Ascotel IntelliGate Net (AIN) and for IP system terminals (AIP-6500 / DSP-0x)
- AVS Voice Mail System (VM-02P / VM-04P)
- Mobile telephony (DECT) / full-duplex hands-free mode / Operation of the standard Voice Mail System with voice compression (Voice Mail channels) (DSP-0x)
- Interfaces for connecting door intercom systems / switch group interface and relays (OI-2DOOR)

Max. number of special cards per PBX

Card	Ascotel IntelliGate 2025[1)]	Ascotel IntelliGate 2045[1)]	Ascotel IntelliGate 2065[1)]
AIP-6400 (IP Interface Card)	1	2	4
AIP-6500 (IP Interface Card)	1	2	4
Total IP Interface Cards	1	2	4
VM-02P / VM-04P (Voice Mail)	1	1	1
OI-2DOOR	1	1	1
DSP-01 / DSP-02	2	3	4
DSP-04	2	2	3
DSP cards overall	2	3	4

1) Applies also to the rack version

IP Interface Card AIP-6400

The special card AIP-6400 makes it possible to network several Ascotel systems in different locations via an existing voice-compatible IP data network using the QSIG protocol. The same features are available throughout the network as in the case of networking via a leased line.

Resources of the AIP-6400 special card

	Number per AIP card
Simultaneous VoIP / QSIG over IP connections	12[1)]
Ascotel systems networkable via IP	50

1) Max. component placement with 2 DRS modules

IP Interface Card AIP-6500

The IP interface card AIP-6500 allows the Ascotel IntelliGate to be connected to the customer's IP data network (LAN/WAN). Voice traffic is then routed via the existing data network (Voice over IP). With the special card it is then possible to operate IP systemterminals, SIP terminals and to network several Ascotel IntelliGate systems into a single Ascotel IntelliGate Net (AIN).

Resources of the AIP-6500 special card

	Number per AIP card
Call channels active simultaneously	16[1)]

1) Max. component placement with 2 DRS modules

Voice Mail Cards VM-02P and VM-04P

Using expansion cards Ascotel IntelliGate provides the AVS Voice Mail system There are two card types available, and they differ in the number of Voice Mail channels and in the recording time. Only one Voice Mail card can be operated on each system or in each Ascotel IntelliGate Net.

Resources of the Voice Mail cards

Voice Mail card	Voice Mail channels	Number of mailboxes	Total recording time
VM-02P	2	to 600[1)]	4 h
VM-04P	4	to 600[1)]	8 h

[1)] limited by the system limits

Options Card OI-2DOOR

The OI-2DOOR options card contains special interfaces for connecting door intercom systems, a switch group interface and relays. With the control input for switching over switch groups 1...9 the system can be adapted flexibly to the customer's time and situation-related requirements, for instance by routing daytime calls differently to night-time calls.

Special interfaces on the OI-2DOOR options card

Special interfaces	Number of entries
Door intercom system incl. door bell input, door opener, power supply relay	2
Interface for switching over one of the switch groups 1...20	1
Relays with two floating switchover contacts each	3

DSP Cards DSP-01, DSP-02 and DSP-04

DSP (Digital Signal Processor) cards provide voice channels for the following functions:

- Operation of a DECT system with cordless terminals (DECT channels). Pure DECT-DECT connections do not seize any DECT channels.
- VoIP functionality for connecting IP terminals and/or operating an Ascotel IntelliGate Net (VoIP channels). Internal connections from IP terminals to IP terminals do not require VoIP channels.
- Operation of the standard Voice Mail System with voice compression (Voice Mail channels). This vastly increases the storage capacity.
- Full-duplex hands-free operation for Office 45/45pro terminals (Hands-free channels). This increases the quality during hands-free mode. On all Office terminals with hands-free operation, half-duplex hands-free operation is also possible without a DSP card.

There are three card types, which differ in the number of available DSP components.

Number of DSP components per DSP card

DSP card	Number of DSP components
DSP-01	2
DSP-02	4
DSP-04	5

The function of the DSP components can be configured individually in AIMS. A combined mode is available for the functions DECT and hands-free operation. The DSP-04 expansion card is equipped with more powerful DSP components and therefore provides more voice channels for each DSP component:

Function and number of voice channels of the DSP components

Function 1 / Function 2	Voice channels of DSP components on the DSP-01/DSP-02 cards	Voice channels of DSP components on the DSP-04 card)
DECT / -	6 / -	9 / -
DECT / Hands-free	4 / 1	7 / 2
Hands-free / -	5 / -	5 / -
VoIP / -	2 / -	2 / -
Voice Mail-2 / -	2 / -	2 / -
Voice Mail-4 / -	4 / -	4 / -

Ascotel IntelliGate Rack versions

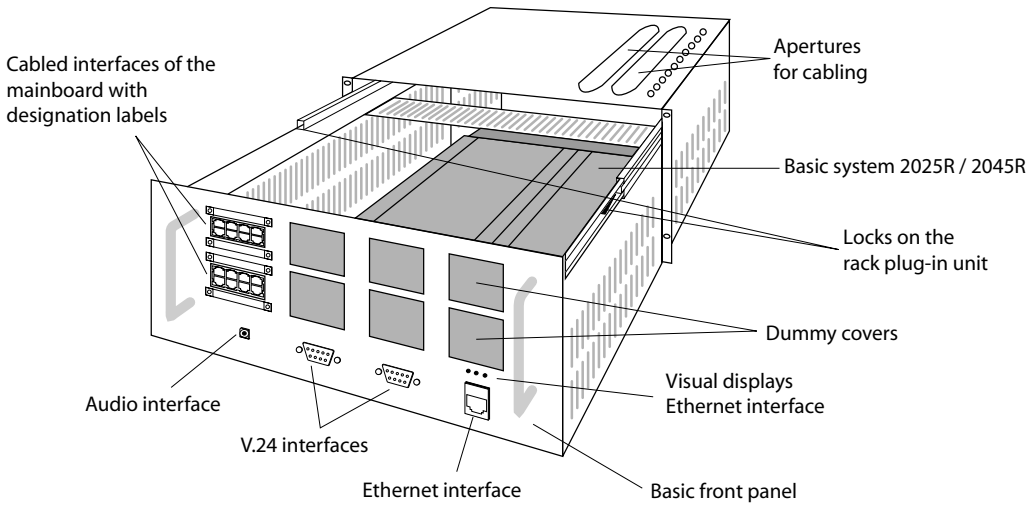
With the greater IP integration of Ascotel IntelliGate systems all systems are also available in rack versions. The scope of performance and functionality do not differ from those of systems of the ”wall mounting” type. This means that all the information contained in the Ascotel IntelliGate system documentation is also valid for the rack versions. The extra letter "R" in the designations indicates a rack version.

Rack version designations

Basic systems designation	Systems designation
2025R / 2045R basic system	Ascotel IntelliGate 2025R / Ascotel IntelliGate 2045R
2065R basic system	Ascotel IntelliGate 2065R

Unlike the mounting set used for installing a PBX vertically into a 19" cabinet, the rack versions are genuine 19" plug-in units for horizontal installation, with the following advantages:

- Only 5 HM (height modules) instead of 12 HM on the mounting set
- All user-network, network and special interfaces on the basic systems and expansion cards are accessible on the front panels and can be designated with labels. Depending on the configuration, expansion front panels (1 HM / 3 HMs) may have to be provided for a 2065 system (see "Expansion Front Panels", page 16).
- The rack plug-in unit with the integrated Ascotel IntelliGate system is designed so that the fully cabled system can be removed from the rack plug-in unit like a drawer, providing full access to the control elements such as the HEX rotary switch, Reset button, EIM card, etc. If required, the drawer can be completely removed from the rack plug-in unit by releasing the side locks.
- It is also possible to replace expansion cards with the system pulled out. Simply disconnect the connections to the expansion cards that need to be replaced. Make sure you disconnect the system from the power supply first.
- The 2065R basic system is supplied with an integrated fan, which is powered by a plug-in power supply unit (supplied).



Ascotel IntelliGate 2025R / 2045R in its basic configuration

Basic Front Panels

The basic front panel is fitted differently depending on the system. The interfaces between the expansion cards and the basic front panel are connected using prefabricated 16-wire cables, which are available in lengths of 0.5 or 2 m

Basic Front Panel on the 2025R / 2045R Basic System

The basic front panel on the 2025R / 2045R basic system incorporates not only the pre-wired interfaces of the mainboard but also all the interfaces of any expansion cards. Depending on the system's configuration and expansion different connection modules may be fitted behind the empty openings provided (see "Connection Modules", page 16).

Basic Front Panel on the 2065R Basic System

On the basic front panel of the 2065R basic system the standard mainboard interfaces (with the exception of the general bell relay) and the Ethernet interface of the processor card are cabled. 8 x 8 interfaces of expansion cards can be wired to the basic front panel of the 2065R basic system using the corresponding connection modules. Two expansion front panels are available for additional expansion stages.

Expansion Front Panels

Expansion front panels for 32 interfaces (1 HM) and for 64 interfaces (3 HM) are available for the cabling of other network, user-network and special interfaces of the 2065R system. The larger expansion front panel can be swivelled out.

Additional 19" Plug-in Unit

A separate drawer-type 19" plug-in unit is available for additional hardware and expansions (e.g. NT converter or LAN switch) (2 HM).

Connection Modules

Different connection modules can be fitted depending on a system's configuration and expansion. They are installed behind the openings provided in the front panels. Unused openings in the front panels can be closed using dummy covers. There are three different types of connection modules:

ab/AD2 Connection Module

The ab/AD2 connection module contains 8 RJ45 sockets for 8 a/b and/or 8 AD2 interfaces. The wiring to the expansion cards consists of one prefabricated 16-wire connecting cable or 4 quad two-conductor pillar terminal blocks.

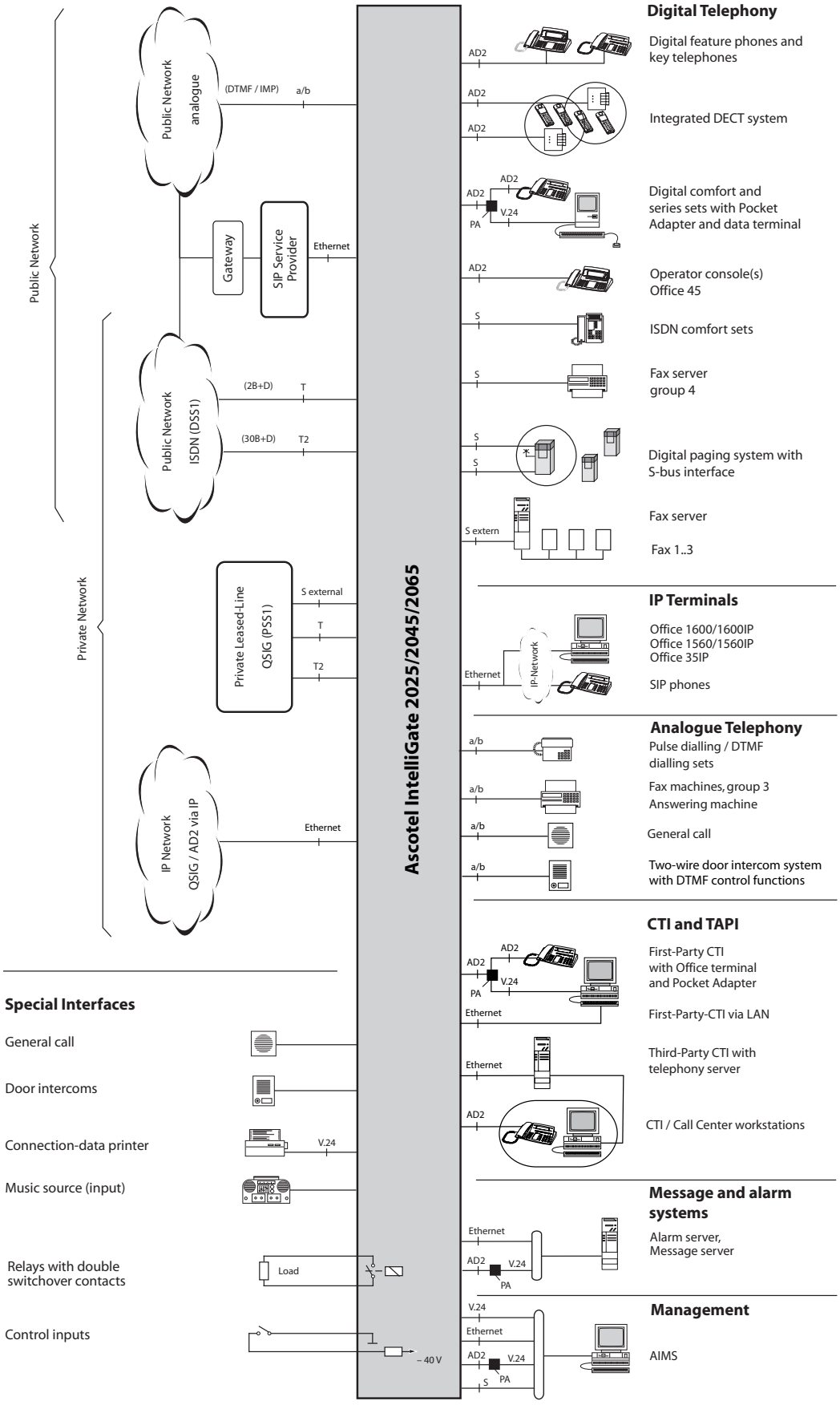
S/T Connection Module

The S/T connection module contains 8 RJ45 sockets for 8 S and/or 8 T interfaces. The wiring to the expansion cards consists of two prefabricated 16-wire connecting cables or 4 quad two-conductor pillar terminal blocks.

LAN/PRA Connection Module

The front of the LAN/PRA connection module features 8 RJ45 screened sockets, with in each case the superimposed sockets connected in parallel. 4 RJ45 screened sockets for 4 PRA and/or 4 Ethernet interfaces are available for the wiring to the expansion cards. In each case the interfaces are wired to the expansion cards using commercially available screened cables.

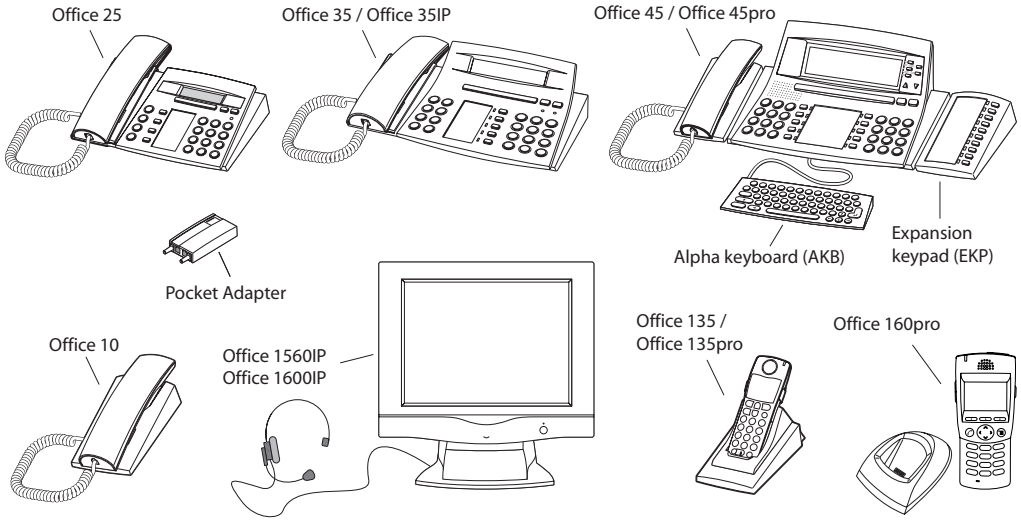
Connection Options



Overview of interfaces with possible terminal equipment

Terminals of the Office Family

The terminals of the Office family are characterised by an attractive design, ergonomic operator convenience and customer-oriented functionality. The broad range of products ensures there is a suitable model for every use.
Among corded terminals the choice ranges from the cost-effective basic model to the fully equipped added-feature model. To increase the comfort level even more, the Office 35 and Office 45 terminals can be optionally equipped with an alpha keyboard and expansion keypads. Handsets are available in the form of elegant lightweights or in a sturdy, splashwater-resistant version The Office 35IP and Office 1600IP IP system terminals are connected directly to an Ethernet interface on the PBX, making the IP infrastructure available for telephony uses. Telephone switching is optimally supported by the Office 1560/1560IP PC Operator Console or the Office 45 Operator Console. The Pocket Adapter serves to connect a PC to a user-network interface.



The Terminals of the Office Family

The terminals of the Office family (incl. DECT handsets) are digital terminals. Alphanumeric displays, menu prompting and an intelligent Foxkey ensure a user-friendly, intuitive handling of the complete spectrum of performance. Letters are assigned to the digit keys of the dial pad in accordance with the Vanity table and are keyed in via the dial pad. Freely configurable keys are used to store frequently used call numbers, functions and operating procedures in the form of macros. A simple keystroke is enough to dial a call number or to listen to the Voice Mail System.

Foxkey

All Office terminals have a Foxkey whose variable function key assignment intelligently adapts to the each situation and provides intuitive operation of all terminals. Depending on the state of the Office terminal, it lets you conveniently perform important functions with a single keystroke. Scrolling at length through menus becomes superfluous.

Freely configurable keys

Freely configurable keys can be defined as number keys, function keys or team keys. Team key features include, for example, enabling you to easily answer calls for absent team colleagues on your own terminal.

Convenient Dialling Options

Office terminals (incl. DECT terminals) give you other options for establishing a connection besides dialling numbers. For example, with name dialling you can simply enter a person's name (or initials) and the Office terminal searches for the matching telephone number and dials per keystroke. The only requirement is that the system knows the name in question.

Another convenient way of dialling call numbers is to dial from lists. A simple keystroke under the appropriate entry dials the number. Office terminals provide one last-number redial list and two call lists for answered and unanswered calls.

Data Integrity

All the terminal data is stored in a non-volatile memory on the system and can be saved using a backup with AIMS.

AD2 interface

Two Office terminals or an Office terminal and a Pocket Adapter can be connected in parallel to the two-wire digital user-network interface AD2. One DECT radio unit can be connected for each AD2 interface. An SB-8 radio unit with 8 call channels occupies two AD2 interfaces.

Ethernet interface

The Office 35IP, Office 1560IPand Office 1600IP terminals are connected directly to an Ethernet interface on the system, making the IP infrastructure available for telephony uses. The terminal Office 35IP has an integrated switch (100BaseT) for connecting the workstation computer. This means it is not necessary to install a separate network connection point to operate the Office 35IP. With the integrated SIP protocol SIP terminals (softphones and hardphones) can also be connected to the system via the Ethernet interface.

Applications

There is a suitable Office terminal for every area of application:

Area of application for Office terminal applications

Area of application	Office 1560IP	Office 1560	Office 1600IP	Office 1600	Office 45 Office 45pro	Office 35IP	Office 35	Office 25	Office 10	Office 135 Office 135pro	Office 160pro
System terminal on AD2	–	[1]	–	[1]	✓	–	✓	✓	✓	–	–
System terminal on the IP network	✓	[1]	✓	[1]	–	✓	–	–	–	–	–
Handset (cordless)	–	–	–	–	–	–	–	–	–	✓	✓
Softphone (on PC)	✓	✓	✓	✓	–	–	–	–	–	–	–
Wall mounting possible	–	–	–	–	–	✓	✓	✓	✓	–	–
Key telephone	–	–	–	–	✓	✓	✓	–	–	–	–
Operator Console	✓	✓	–	–	✓	–	–	–	–	–	–
PBX settings possible	–	–	–	–	✓	–	–	–	–	–	–
Splashwater resistant (IP54)	–	–	–	–	–	–	–	–	–	–	✓
Explosion-protected type (ATEX)	–	–	–	–	–	–	–	–	–	–	–

[1] Combination of IP system terminals on the PC with an AD2 system terminal.

Corded Office terminals on AD2

Corded Office terminals

	Office 45 Office 45pro	Office 35	Office 25	Office 10
Interface	AD2	AD2	AD2	AD2
Fixed function keys	12	8	4	2
Freely configurable keys	10	5	4	3
Foxkey	✔	✔	✔	✔
Menu / Information key	✔	✔	✔	–
Display (lines x characters)	8 x 40	2 x 24	1 x 14	–
Dialling by name	✔	✔	✔	–
Private phone book entries	350	40	10	10
Entries, unanswered call list	10	10	4	–
Entries, answered call list	10	10	4	–
Loudspeaker	✔	✔	✔	–
Hands-free mode	✔	✔	–	–
Alpha keyboard AKB (optional)	✔	✔	–	–
Expansion keypad EKP (optional)	✔	✔	–	–
Pocket Adapter (optional)	✔	✔	✔	✔
Use as Operator Console	✔	–	–	–

Office 45 / Office 45pro

The Office 45 is the top model in the Office family. It offers the full spectrum of performance available with Ascotel IntelliGate systems. All the features can be used intuitively through menu prompting and Foxkey. The large, clearly structured display and the display keys make operation all the easier and offer full operator functionality. On the Office 45pro the display is back lit. The operator menus are available in many European languages. The Office 45 can be used as a featurephone, key telephone or Operator Console. The "System Assistant" function allows the customer to define his own frequently occurring system settings.

Office 35

The Office 35 already features the full performance spectrum of Ascotel IntelliGate systems. All the features can be used intuitively through menu prompting and Foxkey. The operator menus are available in many European languages. The Office 35 is a terminal for high-volume telephoning with exacting requirements.

Options for Office 45/45pro, Office 35 and Office 35IP

Office 45/45pro, Office 35 and Office 35IP can be equipped with expansion keypads (EKP) and / or an alpha keyboard (AKB) (a maximum of 3 options can be combined). Each expansion keypad provides 10 additional configurable keys. The alpha keyboard is designed for convenient dialling by name, private phone book management and for writing text messages. Office 45/45pro, Office 35 and Office 35IP can also be operated directly from the alpha keyboard.

Office 25

The Office 25 is the ideal model for ordinary phone users. It has a Foxkey and four configurable keys as well as an alphanumerical display for displaying the number and name of the caller (CLIP / CNIP), operator menus in many European languages, Foxkey assignment and more. With */# procedures you can take advantage of nearly the entire performance range of the system. The Office 25 lets you send and receive messages to and from devices with alphanumerical displays.

Office 10

The Office 10 is a cost-effective alternative to analogue terminals. It features the Office family's intuitive operator prompting: Pressing the Foxkey intelligently selects the function best suited to the situation. A message LED is used among others to signal notification by the Voice Mail System for example. The terminal itself is small, compact and can also be wall-mounted.

Office 20, Office 30, Office 40

These system terminals are supported as before.

Pocket Adapter

The Pocket Adapter (PA) can be used to connect a data terminal equipment with V.24 interface to an AD2 user-network interface to which an Office terminal can also be connected at the same time. The PC is connected via a serial interface on the V.24 cable of the Pocket Adapter. Software drivers have to be installed on the PC to run the various applications.

Office DECT Radio units

One or more radio units are required to be able to operate DECT handsets on the Ascotel IntelliGate system. They are connected to one or two AD2 interfaces. They are powered either via the AD2 or locally using separate plug-in power supply units. Office handsets as well as GAP-mode DECT handsets by outside manufacturers can be logged on to a radio unit.

There are four types of radio units, and although their appearance differs only through their labelling, they do offer different features.

Ascotel DECT radio units

Features	SB-4	SB-4+	SB-8	SB-8ANT
Number of simultaneous call connections	4	4	8[1)]	8[1)]
Number of AD2 interfaces required	1	1	1[2)] or 2	1[2)] or 2
Status display with LED	✔	✔	✔	✔
Disconnectable LED display (normal mode)	✔	✔	✔	✔
Automatic upload of new system software	✔	✔	✔	✔
Plug-in power supply unit for local power supply	✔[3)]	✔	✔	✔
Power requirements from PBX with local power supply to RU	620 mW	<100 mW	<100 mW	<100 mW
Max. length of AD2 bus[4)] for operation without plug-in power supply unit	660 m	1200 m	1200 m	1200 m
Alarm following the failure of a plug-in power supply unit	–	✔	✔	✔
External antenna connections	–	–	–	2
GAP compatible	✔	✔	✔	✔

1) Only in Zero-Blind-Slot mode, which must also be supported by the handsets (Office 135/135pro, Office 160pro, includes any GAP terminals)

2) Only 4 call connections are possible simultaneously in the event of a connection via 1 AD2 interface

3) SB-4 requires a different plug-in power supply unit to the SB-4+ / SB-8 / SB-8ANT radio units

4) For wire diameter 0.5 mm

Cordless Office Terminals

Cordless Office terminals

	Office 135	Office 135pro	Office 160pro
Standby time / Talk time	120 Hours / 12 hours	120 Hours / 12 hours	100 Hours / 10 hours
Display	39 x 90 dots	39 x 90 dots	64 x 128 dots
Housing colour Housing colour (front / rear)	anthracite / anthracite	titanium-silver / anthracite	grey-anthracite / grey-anthracite
Backlighting (display)	✔	✔	✔
Backlighting (keypad)	–	✔	✔
Menu / Information key	✔	✔	✔
Foxkey	✔	✔	✔
Hotkey / functions	1 / 6	1 / 6	1 / 6
Redkey function (Hotkey alarm trigger)	✔	✔	✔
Loudspeaker key	✔	✔	✔
Dialling by name	✔	✔	✔
Private phone book	40	40	40
Loudspeaker	✔	✔	✔
Hands-free mode	✔	✔	✔
Volume control	✔	✔	✔
Vibra call	–	✔	✔
Headset socket	–	✔	✔
Charging bay	✔	✔	✔
Socket for headset charger	–	✔	–
Leather case	✔	✔	✔
Carry clip	✔	✔	✔
Dust-proof and splashwater-proof (IP64)	–	–	✔
Explosion-protected type (ATEX)	–	–	–
GAP compatible	✔	✔	✔

Common DECT handset features

A handset is not allocated to any particular radio unit. It can set up and clear down incoming and outgoing calls in all radio units.

Even during a call, the subscriber is able to move around freely with the handset within the coverage area (handover function).

A handset can be logged on simultaneously to a maximum of 4 different Ascotel DECT systems.

The PBX recognizes only handsets that are logged on. This prevents unauthorized users from making use of the system.

Ascotel DECT subscribers can be integrated into user groups like other subscribers.

Problem-free operation is no longer guaranteed at the limit of and outside the radio area.

Office 135 / Office 135pro

The Office 135/135pro is ideal for office environments as well as for hospitals and retirement homes. As it is compact, light and handy, it can be taken along to any meeting. It is used mainly by subscribers who are on the move yet need to be reachable.

Its operator convenience is similar to that of an Office 35. It also features a number of functions that are very useful for mobile subscribers in particular, for example discreet ringing, key lock and a hotkey that can be used to store 6 numbers or functions. The hands-free function of this Office terminal is particularly high in quality. An easily readable LED rounds out the design of this Office terminal. A leather pouch is available as an accessory.

The Office 135pro also features Vibra Call, a socket for an optional headset, a socket for an optional charger and an backlit keypad.

The Office 135/135pro can be updated at any time with the current operating software via the cellular network.

Office 160pro

With its sturdy design, the splashwater-proof and shock-proof Office 160pro is particularly well suited for industrial environments. It has an intelligent Foxkey, a graphics-compatible, backlit display and a socket for an optional headset. Other features of the Office 160pro include hands-free operation with volume control, vibra call, hotkey and an LED. An integrated SIM card contains the registration data and personal settings. A leather case and a belt clip are available as options.

Office 100, Office 130/130pro, Office 150/150EEx, Office 155pro/155ATEX

These system terminals are supported as before.

IP system handsets

Like all the other system terminals the IP system terminals of the Office family communicate with the PBX via the AD2 protocol. Unlike conventional system terminals, however, call and signalling data is transmitted in the IP network. The terminals are connected directly to the IP network, making the AD2 connection superfluous. Besides the Office 35IP hardphone the Office 1600IP softphone and the Office 1560IP PC Operator can also be used as IP system terminals. IP system terminals can be used on a single IP-PBX or in an AIN.

Hardphone Office 35IP

The Office 35IP system terminal is a Hardphone with the same range of features and the same user prompting as an Office 35. The VoIP interface to the system is ímplemented via the Standard Media Switch on the mainboard. Office 35IP can be operated anywhere in the IP data network as long as the connection complies with the quality criteria required for VoIP (Voice Over IP).

This key expansion option translates into a whole range of advantages for the user:

- Unlike a connection via the public telephone network, no call charges are incurred, and users can be reached as internal subscribers.
- Many features that are restricted when a remote subscriber is integrated as a virtual subscriber can be fully utilised, i.e. team keys, call forwarding, Voice Mail, Courtesy, text messages, announcements.
- In the case of smaller branch offices the customer can dispense with using an additional PBX in the branch.
- When expanding an existing infrastructure with new connections for PC and phones there is no need to expand the phone lines.

Office 1600/1600IP Softphones

The PC-based system terminal Office 1600/1600IP is an OIP Client application (see "Open Interfaces Platform", page 29). With its user-friendly interface it extends the boundaries of the Office terminals, provides powerful group functions and integrates outstandingly well into standard PC programs.

Although designed primarily with small to medium-sized workgroups in mind, the Office 1600/1600IP is also an invaluable companion for individual users with high mobility requirements. With the centralised information management Office 1600/1600IP users have direct access to call lists, phone books, messages, etc., from home, from the company and from anywhere, using a simple connection to the company LAN.

From the PBX's viewpoint the Office 1600/1600IP is as much an IP system terminal as the Office 35IP: But unlike the Office 35IP the OIP server signals and controls all the Office 1600/1600IP in the network. The IP addressing is also carried out via the OIP server. Control and signalling are effected in the IP PBX. The subscriber data is stored in the IP PBX.

On the Office 1600 voice is transmitted via the AD2 interface of an Office terminal; on the Office 1600IP this is done for example via a headset via IP connected to the PC.

PC Operator Console Office 1560/1560IP

Friendly and efficient, and capable of keeping control even under the most hectic conditions: Those are the qualities people expect of a professional switching centre. All of which is easily achieved with the Ascotel PC Operator Console, the PC workstation that fulfils virtually every requirement.

The PC-based system terminal Office 1560/1560IP is an OIP Client application. It can be used either purely as an Office 1560IP IP softphone or, in conjunction with a corded Office terminal, as an Office 1560.

In an Ascotel IntelliGate Net the Office 1560/1560IP can be used as a network-wide Operator workstation. The only requirement is that all the PBXs of the Ascotel IntelliGate Net network are connected to an OIP server.

Features of the PC Operator Console:

- Graphic interface
- Mouse and keyboard operation
- Foxkeys
- Busy indicator, dynamical busy indicator, phone book and logbook (modules)
- Call management with internal and external queues
- Feature Wizard (for activating Ascotel IntelliGate features)
- Background and foreground mode
- Database concept with import / export and DDE interface to other databases
- Synchronisation with a Microsoft® Exchange server
- Call routing in event of a failure of the PC Operator Console
- Possibility of running several PC Operator Consoles on one PBX or an AIN
- All Ascotel IntelliGate features supported

Terminals by other manufacturers

Corded Terminals by Other Manufacturers

On the analogue and S user-network interfaces, appropriate terminal types from Aastra or other manufacturers can be used. ISDN terminals must comply with the Euro ISDN standard. For these terminals on the S bus Ascotel IntelliGate also offers a number of ISDN features. Ascotel IntelliGate's numerous features can be operated with */# procedures.

All terminals approved by the network operator can be used on the analogue user-network interfaces. The system supports pulse and frequency dialling modes.Ascotel IntelliGate features can be operated with */# procedures.

9d Handsets Connected to Ascotel IntelliGate

The rugged 9d handsets from the Ascom Wireless Solutions product portfolio can also be registered as system terminals on Ascotel IntelliGate under the GAP standard or with the "Advanced Messaging" licence.

User-friendly messaging and alarm systems can be implemented in combination with the IMS (Integrated Message Server).

Cordless Terminals by Other Manufacturers

Ascotel IntelliGate supports cordless terminals by other manufacturers based on the GAP standard (GAP: Generic Access Profile)

GSM Terminals

Although the PBX does not have a GSM receiver, GSM terminals can be connected to Ascotel IntelliGate. They are given a separate internal call number on which they can be reached internally. If the user of the GSM terminal calls a call number specially set up in the PBX, he can carry out certain */# procedures or make internal/external calls. In an AIN that covers several countries this can help save considerable roaming charges.

SIP terminals

Besides the IP system terminals of the Office family Ascotel IntelliGate also supports SIP-based IP terminals (SIP terminals). With the integrated SIP protocol SIP terminals (softphones and hardphones) can be connected to the PBX via the Ethernet interface and registered as internal subscribers. For the exact configuration and commissioning procedure please refer to the "Ascotel IntelliGate Net (AIN) and IP terminals" System Manual.

Voice Mail and voice announcement services

Availability is the be-all and end-all of telecommunications. Voice Mail Systems are a cost-effective means of achieving that availability. Callers who have to make several call attempts because a particular subscriber is unavailable are now a thing of the past. Voice Mail Systems make for far more efficient telephone communications between staff members, customers and suppliers, which in turn means far better operating results. If the caller is briefly put on hold while being transferred or if he has to wait a short while because all the channels are busy, the wait can be made as pleasant as possible with the features "Music on hold" and "Announcement prior to answering".

Standard Voice Mail System

The standard Voice Mail System is included in the basic configuration of any Ascotel IntelliGate system. Essentially it provides the functions of an answering machine. Each mailbox owner has up to three personal greetings which he can record himself using a phone. In this way the appropriate greeting can be selected according to the absence situation. Depending on the mailbox configuration the caller may or may not have the possibility of leaving a voice message after the greeting. An individual Automated Attendant can be stored with each greeting so the caller is routed to correct destination.

The standard Voice Mail system integrates the Office terminals for operating the Voice Mail functions. The mailbox owners are notified of any voice messages received, which they can then retrieve and/or delete, or call back the callers directly. If the system terminal connected is equipped with a display, the call number (CLIP), name (where available), date and time of the voice message received are also displayed.

On system terminals with a display it is operated and configured using the Foxkey; on all other terminals, using */# procedures and suffix dialling (DTMF). Remote retrieval and remote configuration are also possible.

Voice Mail System AVS 5150

In addition to the answering functions of the standard Voice Mail System the AVS Voice Mail System also provides time-controlled announcements, voice-actuated menu prompting, CLIP-based routing, the possibility of external notification, and much more. The AVS ships as an expansion card in two variants, each variant differing in the number of parallel voice channels and in recording capacity.

Overview of the Voice Mail System

Features of the Ascotel Voice Mail System

Features	Standard Voice Mail System	AVS Voice Mail System
Number of Voice Mail channels	2 or 4	2 and 4 [1]
System configuration • local or remote with telephone • local or remote with PC	with CM ✓ ✓	with VMM ✓ ✓
Ascotel integration	Integrated	Expansion card
Signalling and processing of Voice Mail messages on the system terminals	✓	✓
Multilingual capability • Number of languages activated simultaneously	– 	✓ 3
Auto-Attendant • Tree structure levels	✓[2] –	✓ 18
Routing table for expanded routing (DDI, CLIP) • Number of entries	– 	✓ 50
Mailboxes • Number of mailboxes • Number of personal greeting texts per mailbox • Number of messages per mailbox • Recording capacity	 up to max. number of subscr. 3 unrestricted 20 mins / 160 mins[2]	 up to max. number of subscr. 3 99 4hrs and. 8hrs [1]
Mailbox groups, distribution lists • Number of distribution lists per system	– 	✓ 4
External notification (outcalling) Number of numbers per mailbox	– 	✓ 1
Audio texts • Number of personal greeting texts per mailbox • Number of preconfigured audio texts	✓ 3 –	✓ 3 18
Additional information on messages received	Time, date and sender (CLIP)	Time, date and sender (CLIP)
Backup and Restore of voice and configuration data	✓	✓
Fax tone recognition	–	✓
Time synchronization with system	✓	✓

[1] Voice Mail cards VM-02P and VM-04P

[2] Voice Mail licence(s) required

Announcement prior to answering (Courtesy Service)

The Courtesy service is an announcement service for incoming external calls. If an external call is not answered by the internal subscriber after a definable delay, the caller obtains an announcement which can vary depending on the time of day or the situation. Once the recorded announcement has been played, the caller once again obtains the ring-back tone or music. Announcements can be recorded either via the handset of a terminal or via a recording equipment connected to the audio interface. It is also possible to record announcements with a PC, store them as a wave file and load them into the system.

Music on hold

The Music on Hold feature is used to play music, a CP message or a hold tone to the caller on hold. Waiting callers include callers on hold waiting to be switched through or callers switched through to the Courtesy service.

The music or CP message is fed directly via the audio interface using an external playback recorder with line output or played back from an internal wave file. The internal wave file can be created in a number of ways and then downloaded into the system:

- By recording via a terminal handset
- By feeding in via the audio interface
- By loading an an external wave file

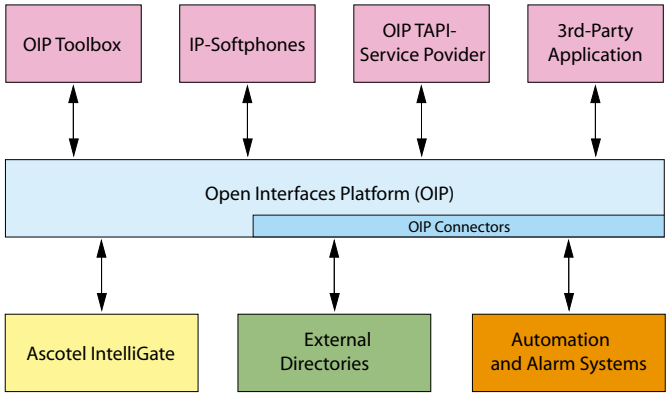
The customer is responsible for all copyright matters relating to any music playback.

Application interfaces

The most important interface for own and third-party applications is the interface of the Open Interfaces Platform (OIP). This open interface allows the applications to be deeply integrated with telephony. The user is then able to benefit from a highly convergent complete system (telephony and IT system). Third-party applications can also be integrated into Ascotel IntelliGate without OIP using different interfaces (Ethernet, ISDN, V.24).

Open Interfaces Platform

The Open Interfaces Platform (OIP) is a software component connected to Ascotel IntelliGate as PC middleware to allow the integration of applications. The applications are connected directly to the OIP interface (Corba). The applications then have access to many of the powerful functions of Ascotel IntelliGate and OIP. These added-value services allow the user to work more efficiently.



OIP as middleware between Ascotel IntelliGate, external data sources and applications

OIP provides the applications with more than just telephony functions. The OIP Toolbox contains various applications for management and operation.

The PC-based IP system terminals Office 1560/1560IP and Office 1600/1600IP are OIP client applications. The Office 1560/1560IP can be used in an Ascotel IntelliGate Net as a network-wide operator workstation. Thanks to the centralized information administration Office 1600IP users have direct access to call ists, phone books, messages, etc., from any location using a connection to the company LAN.

OIP services are the core components of the Open Interfaces Platform and are in charge of controlling the system. They provide interface functions, which the system is being controlled (e g. Call Control or configuration).

OIP can be used as a telephony server to provide CTI functionalities on telephony clients. This means that the Microsoft® telephony server no longer has to be used. Added security is also provided with the different rights assignment.

Several Ascotel IntelliGate systems can be connected to an OIP server. It is then possible for instance to obtain network-wide call logging for all the systems, to display call charge information on the Office terminals and to display status on the busy lamp field of the PC Operator for all the subscribers connected.

OIP supports the connection of external directories and it is also possible to set up alarming and messaging systems.

Message and alarm systems

Ascotel IntelliGate supports several message formats and message protocols for implementing messaging, monitoring and alarm systems.

Internal messaging system for Office terminals

The internal messaging system for Office terminals allows users to exchange predefined or user-defined text messages between Office terminals. Text messages can also be sent to individual subscribers or subscriber groups. A maximum of 16 text messages can be stored per terminal.

The internal messaging system does not have an interface with which it can be addressed directly. However it can also be operated via OIP.

External messaging, monitoring and alarm systems

Connection via V.24 and ATPC1

ATPC1 is a messaging and alarming interface, which is connected via a V.24 interface using a Pocket Adapter. Besides the alarming and messaging functions ATPC1 also provides simple dialling functions.

Connection via V.24 / Ethernet with ATAS

Ascotel IntelliGate provides the powerful ATAS protocol for applications in the security and alarming sector. This protocol can be used to implement customised alarm applications. An alarm appears on the display, complete with the freely definable user functions that apply only to that alarm. In addition the duration of the tone as well as its volume and melody can be freely defined by the user for each alarm.

The ATAS protocol can be addressed directly via the Ethernet interface or via a V.24 interface using the Pocket Adapter. A licence is required for enabling the protocol.

Expanded messaging system with 9d terminals

With the expanded messaging system Ascotel IntelliGate can be used to implement user-friendly messaging and alarm systems. The licence enables the use of the SMPP protocol and 9d handsets to be logged on as system terminals. A wide range of alarm and message applications as well a cordless DECT terminals can then be used from the Ascom Wireless Solutions product portfolio.

The external application (e.g. Integrated Message Server) communicates with Ascotel IntelliGate via the Ethernet interface.

CTI - Computer Telephony Integration

The Ascotel IntelliGate Computer Telephony Integration (CTI) integrates telephony services in the company process. Besides conventional telephony features Open Interfaces Platform (OIP) offers many other convenient functions, which supports the employees with their daily work, for instance:

- Dialling by name for outgoing calls and CLIP display for incoming calls offers an added value by the integration of external directories and databases.
- Notification of Microsoft®Outlook appointments on the Office terminal
- Presence-controlled communication with busy indicator

- Automatic Call Distribution
- Access to system configuration, what a maximum integration of different systems ensures

And of course Ascotel IntelliGate supports also First and Third-Party CTI interfaces for commercial CTI applications based on the Microsoft® TAPI 2.1 standard.

First-party CTI

A first-party CTI is the direct physical connection between a phone terminal and a telephony Client (workstation PC). Telephony functions and telephone states are controlled and monitored on the telephony Client. A first-party CTI solution is ideal for a small number of CTI workstations and is easily implemented.

Connection via V.24 or Ethernet

Ascotel IntelliGate supports first-party CTI on corded system terminals via the Pocket Adapter (V.24 interface). For this purpose the Ascotel IntelliGate TAPI driver is required. The Pocket Adapter is looped between the terminal and the AD2 interface of the PBX.

Ascotel IntelliGate supports First-Party CTI on all Office terminals, also via LAN. For this purpose the Ascotel IntelliGate First-Party TAPI Service Provider (AIF-TSP) is required.

Application example

- Dialling from a database (phone book CD, etc.)
- Caller identification (CLIP)
- Creating a call journal

Third-party CTI

Third-party CTI is an user-friendly multi-station solution. In contrast to first-party CTI, third-party CTI controls and monitors several system terminals (including cordless system terminals) via the central telephony server, which is connected with the PBX. In addition terminals on ISDN and analogue interfaces can also be monitored. PC and terminal allocation is handled by the telephony server.

Connection via Ethernet with OIP

The CTI Third party connection is effected via Ethernet using the Open Interfaces Platform (OIP). To this end the OIP is installed on the telephony server.

Application example

- Busy lamp field
- Group functionality
- Networked CTI solution
- Automatic Call Distribution (ACD)

ISDN interface

Ascotel IntelliGate supports the ISDN protocols ETSI, DSS1 and QSIG. Besides the possibility of networking various systems into a PISN (Private Integrated Services Network) via the ISDN interface, these protocols also provide various functions that can be used for connecting external applications (e. g. IVR systems, fax server, Voice Mail systems, Unified Messaging Systems, DECT radio systems).

Configuration

Ascotel IntelliGate is configured using the AIMS application, which can communicate with Ascotel IntelliGate via different interfaces (Ethernet, ISDN, V.24). A proprietary protocol is used for this purpose. With the Open Interfaces Platform the configuration interface is accessible for application manufacturers.

System monitoring

The system status is monitored using the SEM (System Event Manager) application, which is included in AIMS. The application gathers and outputs the system messages and alarms. The system messages and alarms are also accessible via the Open Interfaces Platform.

Call logging

The Call Logging Manager includes data acquisition for incoming traffic (ICL), outgoing traffic (OCL) and the counting of the acquired call charges according to a variety of criteria. The data can be retrieved via different interfaces and subsequently processed.

Hotel Management Systems

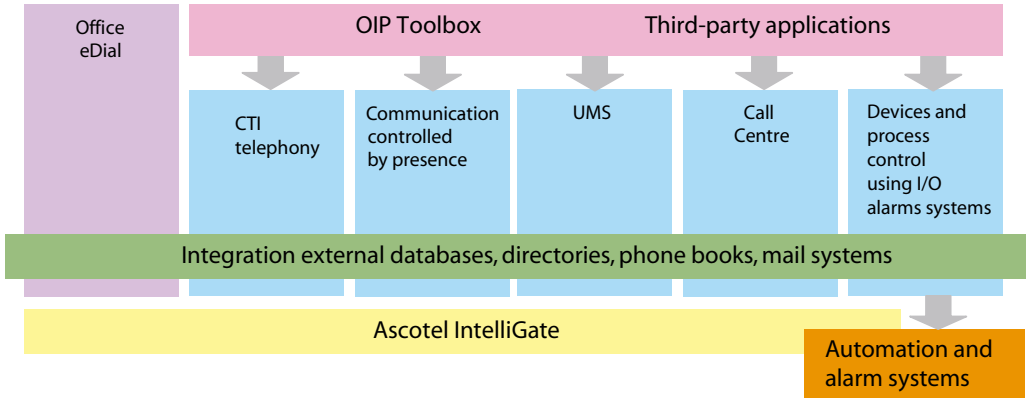
A PC can be connected to the V.24 interfaces of the Pocket Adapter to execute functions in the Ascotel IntelliGate using command language. A special command set is available for communicating with hotel management systems. It is used to carry out subscriber-specific inquiries (e.g. room status) and configurations (e.g. wake-up time).

Voice over IP

Ascotel IntelliGate provides gateways for implementing Voice over IP. Besides the possibility of networking systems via IP (see "Location networking via an IP-compatible data network", page 37) IP system terminals and SIP terminals can also be operated on Ascotel IntelliGate via the Ethernet interface.

Applications

Systems that handle communications efficiently are a key factor in the success of any company. Integrating applications into Ascotel IntelliGate can help increase that company's productivity even further. Depending on the customer's requirements Ascotel IntelliGate provides a range of applications to support ideally the communication processes within the company.



Overview of applications connected

Office eDial

Office eDial is a user-friendly first-party CTI tool that makes the process of making phone calls even simpler for the user. A phone number is selected in a document (e.g. Microsoft® Word, Excel, internet browser) and then dialled simply by pressing a key.

The name, number and call status are displayed in a small window. The window is displayed only if required, which means that Office eDial does not take up space on the screen unnecessarily. With the integration of Microsoft® Outlook, dialling by name and name display are also possible with first-party CTI.

Telephony functions

As a result of the convergence of voice communication and IT systems telephony has embraced some very useful functions, such as dialling by name, caller's name display, display of Microsoft® Outlook appointments on the Office terminal, to mention but a few.

Besides conventional telephony features users also have the possibility of setting up a personal answering machine. The caller is guided through a selection of menus interactively using Auto-Attendant functions to ensure the best possible voice communication.

Presence-controlled communication

Within a workgroup all the members need to be informed about the availability of their colleagues. Presence and absence are indicated clearly on the presence display. Unnecessary attempts to try and reach a colleague are to be reduced to a minimum in this way. The current

calendar entry (Microsoft® Outlook) of the call partner in question is displayed on the DECT handset of users who are on the move.

Unified Messaging

With Unified Messaging (UMS), users have the possibility of listening to voice messages anywhere, even when there is no access to the company's telephony services. The voice messages are forwarded by Ascotel IntelliGate to an SMTP-compatible e-mail system (Microsoft® Exchange, Microsoft® Outlook, web mail) so that users can listen to their messages wherever they are. This is a particularly attractive features for users on the move with their WLAN laptop (e.g. at airports, in hotels, etc.).

The system is both simple and easy to use. A new voice message is signalled by e-mail. The caller's key data is listed in the e–mail (number, name, date and time). The message can be listened to or deleted simply by pressing a key; the caller can even be called back directly.

OIP Call Centre

The powerful OIP Call Centre application provides all the key features such as flexible routing algorithms (cyclic, linear, longest free time, CLIP-based, last agent), skill-based agent groups, and analysis of the call centre data (online and offline) with chart-basis analysis. In the event of a network interruption the system's maximum availability is guaranteed using the emergency routing.

The agent functionality is available on all the Office terminals incl. the softphones and the OIP Toolbox. This is applies equally to home workstations as it does to all the subscribers on all the nodes in an Ascotel IntelliGate Net. The DECT Twin Mode can also be activated for agents, which provides call centre staff with maximum mobility within the company.

With the OIP Toolbox, call centre administration and configuration are particularly easy to implement. Various monitoring functions and workgroup control can be operated with no effort using the administration interface.

Equipment and process control with I/O service / alarming

External alarming and building automation equipment (EIB) can be controlled easily through connection to the communication system, with the possibility of exchanging information and data between the systems. Users can then use their Office terminal for voice telephony and to control external systems.

The I/O service is a highly adaptable and versatile application. Its possibilities include:

- Alarming equipment for servicing personnel
- Monitoring production processes
- Forwarding messages as e-mail
- Connection to building automation (EIB)

The graphical user interface (tree structure) can be used to link events and the corresponding actions.

Integration of contact databases and directories

Integrating telephony into IT systems makes communications within the company significantly more efficient. Existing directories, databases and phone books can be used for dialling by name or to identify incoming calls (displaying the caller's name rather than only his number) on all Office terminals. Calendar entries in Microsoft® Outlook are notified on Office terminals as a reminder. This is particularly useful with DECT handsets since appointments can also be displayed when on the move.

Integration is possible with many standard databases such as Microsoft® Exchange, Microsoft® Outlook, Active Directory, Ascotel IntelliGate directories, LDAP and electronic phone books.

OIP Toolbox

The OIP Toolbox is the graphical interface used to operate and configure the applications (see sections above). It is installed on a workstation PC from the OIP server via the network. The user is supported with a variety of tools to help with communications within the company:

- Call Manager to control the Office terminal (CTI)
- User-friendly configuration of all Office terminals
- Presence display for selected colleagues
- Message Tool for sending and receiving messages
- Calendars, which can automatically be matched up with Microsoft® Outlook
- Call centre agent workstation, tools for the configuration and statistical analysis of the Call Center Manager, Supervisor and Administrator
- Directory display of all the connected databases
- Tools for system administration (configuration, user access control, licences, event messages, IP PBX routing display)
- Graphical I/O Manager for the universal configuration of the I/O service

PUM - Personal User Mobility

With PUM, telephony subscribers are no longer tied to their workstations. Call centre agents in particular are able to use any phone, depending on whichever workstation is free at the time. Nonetheless the communication-relevant data should be attributable to each individual employee (number, name, private phone book, DDI number, statistical call analysis for each agent).

This feature is available on all Office terminals in conjunction with an OIP server. The user is able to log on to the phone using a freely programmable key and the system identifies him accordingly.

Integration of third-party applications

Applications by third-party manufacturers can also be connected to Ascotel IntelliGate, e.g.

- Complex call centres
- First and Third-Party CTI
- Unified Messaging Systems
- IVR / Auto-Attendant
- Voice recognition systems
- Fax servers
- CRM integration
- Alarming systems

The applications can be integrated via the TAPI or the open OIP interface (Corba). The OIP interface guarantees maximum integration. This means that all applications, whether they are own applications or applications by third-party manufacturers, can be used in an Ascotel IntelliGate Net without restriction.

Partner Program and certification

Third-party applications are to be certified on Ascotel IntelliGate to ensure that customers are offered a reliable complete solution. The Partner Program specifies the entire procedure, from testing to certification. The application partner is supported by Aastra in his certification bid by the relevant services:

- Use of the test infrastructure at the Aastra laboratory
- Technical support (hotline, e-mail, field support)
- Detailed information on interfaces and features
- Access to partner extranet
- Certificate confirming successful certification

More detailed information on the Partner Program can be obtained from Aastra Telecom Schweiz AG in Solothurn (Switzerland).

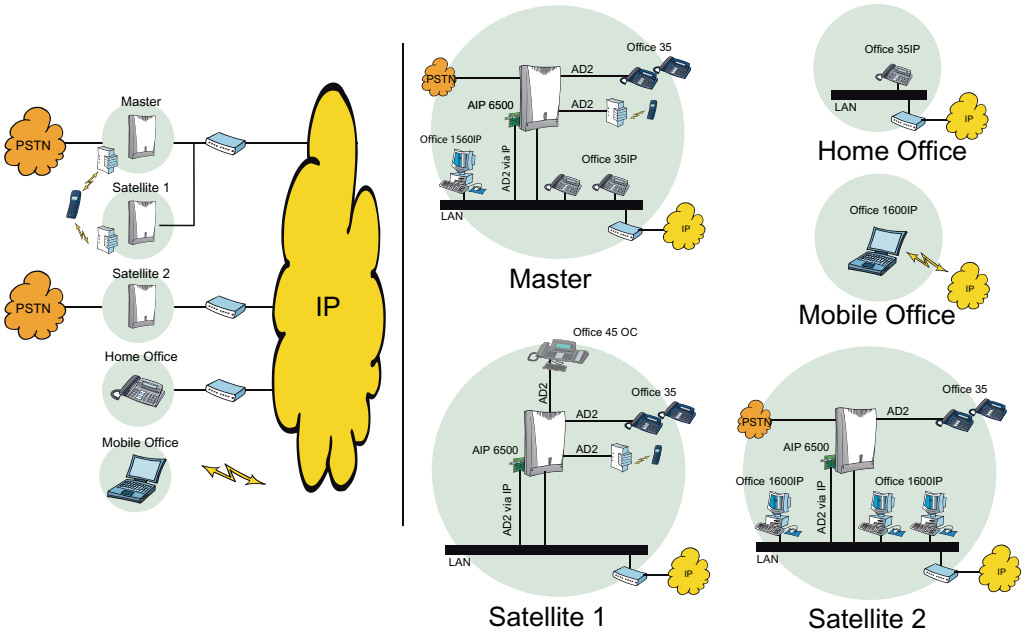
Flexible Networking Possibilities

Ascotel IntelliGate systems at different company locations can be linked together to form an enterprise-wide private communication network with a common numbering plan. This simplifies internal company communication significantly and encourages more efficient work processes despite the distances separating colleagues. The advantage for customers and business partners is that they are directly connected with the right contact partner at any time, regardless of their respective locations. Taking technical, organizational and tariff conditions into account calls for a flexible networking concept so that optimum customer solutions can be implemented. Other factors such as the density and type of communication relationship and the carrier's cost structure have a bearing on the choice of networking type. Ascotel IntelliGate permits several kinds of networking.

Location networking via an IP-compatible data network

Ascotel IntelliGate Net (AIN)

With Ascotel IntelliGate Net (AIN) several Ascotel IntelliGate single systems can be grouped together to form a single IP PBX. The single systems can be installed independently in terms of location and are then linked up via the IP network. In this way they form the nodes of the AIN system as a whole. One node acts as the Master and controls the other (satellite) nodes. With its consistent array of features throughout and a shared numbering plan the system as a whole presents itself as a single, homogeneous communication system, and the individual nodes are not perceived as such by the users.



Ascotel IntelliGate Net with one Master, two satellites and remote workstations

This unique architecture vastly expands the application possibilities of Ascotel IntelliGate systems. Either as a modular expansion of the system limits or as a local expansion so that company branches can communicate via the same IP-PBX even beyond national borders or as an expansion of the DECT coverage range through genuine roaming between the individual nodes.

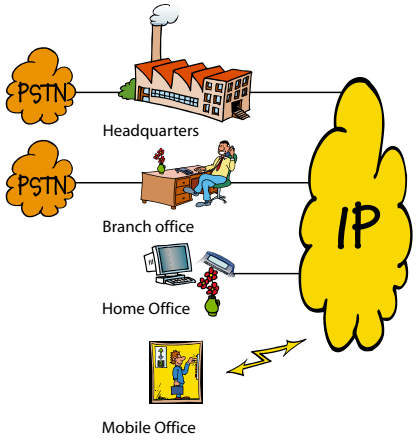
Both the Office 35IP and Office 1600/1600IP IP system terminals and the Office 1560/1560IP PC Operator are fully integrated in the AIN. They are controlled directly by the Master, independently of the location at which they are operated.

Connections are set up with a minimum of VoIP channels and resources since the subscribers involved are always connected with one another by a direct route and are never transit-routed via nodes that are not involved.

An AIN integrates perfectly into the IP network. The individual elements can be addressed either dynamically using DHCP/DNS or statically using fixed IP addresses. An ingenious bandwidth control prevents poor connection quality due to lack of bandwidth on the IP network.

All the nodes of an AIN are configured, set up and provided with new software centrally via the Master using AIMS. Using the Upload manager a software update is carry out on all nodes, the new software is loaded followed by the activation and monitoring by the Master. The Project Manager is used for the planning and for drawing up quotations.

If a node is isolated from the rest of the AIN by an interruption in the IP connection, it continues to operate in offline operating mode with its own local configuration until contact with the AIN is restored.



A typical AIN application

These variety of expansion opportunities offer the user a number of exemplary advantages:

- Networked, locally remote and already installed single systems can be grouped together cost-effectively to form a single communication system. This increases the telephony convenience for all users, from staff members to customers.
- Call charges are reduced as there are no charges for making calls between the nodes, unlike networking via the public telephone network.
- A complete range of features across the entire AIN, regardless of the location of the individual nodes. The AIN eliminates the limits of PISN networking, and features such as forwarding and three-party telephony, text messages or announcements are available between all the nodes without restriction. Other features that were previously limited to a single system are available throughout the AIN, e.g. user groups with members from the entire network, central operator console, Voice Mail, Courtesy with node-specific texts, network-wide call logging, coded ringing/general bell and door intercom systems.
- Thanks to integrated IP system terminals, small branches no longer have to dispense with their own system. Home office staff and users who are frequently on the move can be fully integrated into their own communication system.
- Use of satellites as DECT server for implementing large DECT systems.
- Roaming between the nodes of an AIN enables DECT radio coverage to be expanded almost at random using only one cellular network. The cellular networks of individual DECT systems no longer have to be overlapped; what's more the number of radio units is reduced, which also helps to lower costs.
- When expanding an existing infrastructure with new connections for PC and phones there is no need to expand the phone lines.

- As a result of the expansion of the Ascotel IntelliGate platform to the IP data network the network used becomes part of the Ascotel IntelliGate system. As an alternative calls can also be routed via the PSTN (PSTN overflow) so that communication quality is not affected by interruptions or bottlenecks in the IP network.
- The PSTN overflow allows also a cost-optimised routing configuration in the AIN so far as the VoIP channels and bandwidths in the IP network are designed for an average traffic volume only, and part of the calls during peak times are routed via the public network.

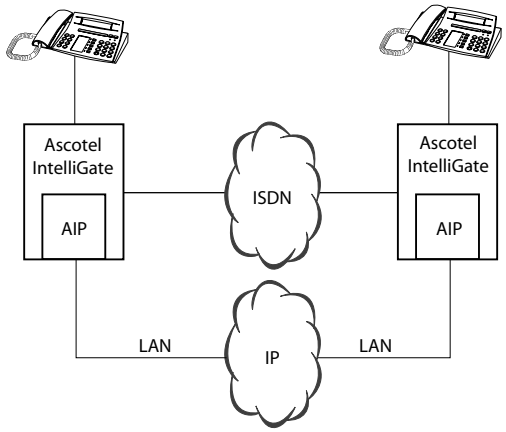
QSIG Networking via AIP 6400

Ascotel IntelliGate systems can be networked via the data network using the AIP 6400 special card. Here voice data and QSIG signalling are transmitted as IP data packets (QSIG tunnelling). Advantages and characteristics:

- All Ascotel IntelliGate QSIG features are available.
- No QSIG licences are required.
- No call charges are incurred.
- Automatic alternative routing via the PSTN if all the available voice channels are busy.

The data network has to be VoIP-compatible and Quality of Service must be guaranteed. AIP 6400 itself supports both CoS and ToS prioritization.

Data protection measures have to be taken into consideration if the connection runs via a public WAN link such as the Internet.



QSIG networking via the IP-compatible data network

Location networking via the public ISDN network

Virtual Networking (Virtual Network)

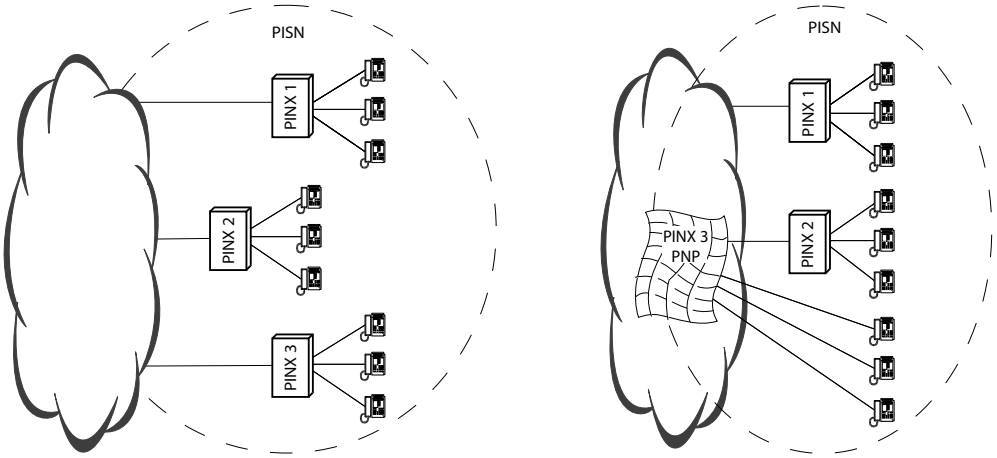
With this type of networking all the PINXs are connected to the public ISDN network.
The connections between the PINX are switched lines, not direct physical connections. The characteristics of this type of networking are:

- Line resources are required for the current connections only.
- Voice and data traffic via the public network is charged according to duration and distance.
- The necessary networking-specific equipment is minimal.
- The range of services available in a virtual network depends on the range of services offered by the network provider.
- The DSS1 ISDN protocol is the main protocol used.

Virtual Networking with a Virtual PBX (Centrex)

Some network providers offer a private numbering plan (PNP) as a service. Together with ISDN supplementary services, e.g. rerouting services, this means that the customer has a virtual PBX at his disposal. Some network providers market this facility under the name Centrex while others use the general term VPN (Virtual Private Network).

A virtual PBX can easily be integrated as a PINX in a PISN. The system supports private numbering plans and incorporates them seamlessly into its own network functionality.



Virtual Networking (left) and virtual network with virtual PBX (right)

Location networking via own or leased lines

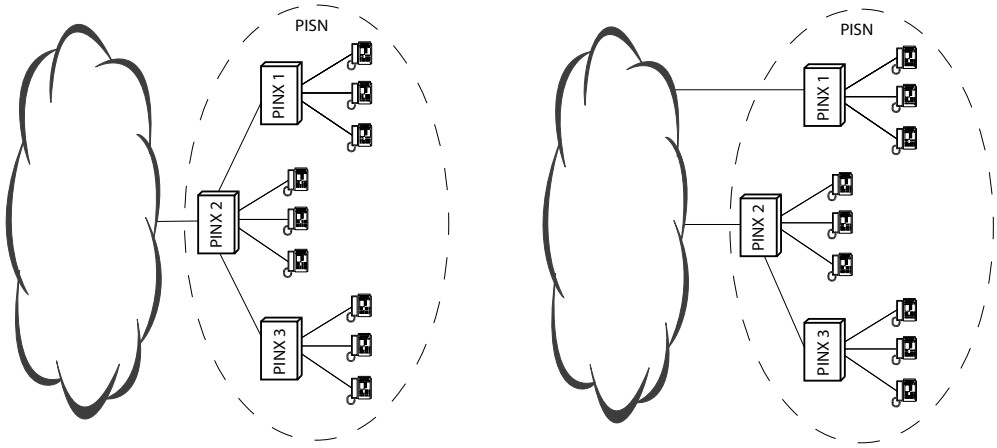
Leased-line Networking (Leased-line Network)

In this network type the PINX (Private Integrated Network Exchange) network nodes are linked through own or leased lines to a PISN (Private Integrated Services Network), whereby networking via basic or primary rate access is possible. QSIG/PSS1 is the main protocol used. This means that a number of featuers are more supported than with the DSS1 protocol, e. g. name display (CNIP/CONP) and network-wide recall. QSIG networking is subject to a licence used to enable a specific number of simultaneously outgoing QSIG channels. The characteristics of this type of networking are:

- fixed line resources
- fixed costs
- It is possible to network Ascotel IntelliGate systems together as well as Ascotel IntelliGate systems and systems by other manufacturers.
- With the QSIG networking of Ascotel IntelliGate systems a number of features can also be operated on other PINXs via QSIG, e. g. switching relays, fetching calls or activating the forwarding of another subscriber.

Combining Leased-line and Virtual Networking

Possibility of combining leased-line and virtual networking within a PISN.



Leased-line networking (left) and combination of leased-line and virtual networking (right)

Testing overflow routing in the PISN

When a connection is setup the system checks the availability of the selected path. If it is not available due to overloading or due to a defect, an attempt will be made to set up the connection via an alternative route, depending on the configuration. There are two types of overflow routing:

- Overflow routing within the private leased-line network:
  Both the initial and the alternative connection path run via dedicated lines of the private leased-line network. The structure of the leased-line network must be meshed.
- Overflow routing via the public network:
  The initial connection path runs via dedicated lines of the private leased-line network while the alternative connection path runs via the public network. The PINXs must of course have an access to the public network.

Supplementary Equipment

Supplementary equipment consists of other system components from Aastra which expand or complement the performance and functional spectrum of the Ascotel IntelliGate system.

teleCOURIER 900 paging system

In many companies paging systems have become part of the standard supplementary equipment. The teleCourier 900 is a particularly powerful product for Ascotel IntelliGate systems.

The digital paging system is capable of controlling up to 400 (Ascotel IntelliGate 2065) pagers. The following pager types are available:

- Pager types without display
- Pager types with small display
- Pager types with large display

The teleCOURIER 900 paging system complies with the requirements of the "Functional Standard for the Connection of Radio Paging Equipment (RPE) to a Private Telecommunications Network (PTN)" (ESPA / ECMA).

The paging system is connected to the system via one or more S interfaces. It communicates with the system via the S bus paging interface (PSI).

A D channel is used for signalling the pager. This means that several parallel paging operations are possible, with one S interface usually being sufficient.

The teleCOURIER 900 paging system is tightly integrated into the Ascotel IntelliGate system, which means that added features such as sending text messages to pagers, displaying call numbers, etc., are all supported.

Configuration and planning

With AIMS, the modular information and management system, the installer is able to configure and service the Ascotel IntelliGate system and its ancillary equipment centrally, online or offline.

The System Assistant provides customers quick access to the main everyday system settings via Office 45.

The Project Manager uses the customer data to calculate the optimum system design and generates other valuable documents for the planning and quotation phase.

The AIMS Information and Management System

The Ascotel Information Management System (AIMS) is a software package used for the configuration and monitoring of the system.. The configuration can be prepared by the telecom specialist offline on site or from a distance, and then downloaded onto the system either locally or via the ISDN network. Remote access means that changes and expansions can be carried out independently of time and location, and is used for the remote maintenance of the system.

The remote alarming function ensures that malfunctions are automatically reported to a maintenance centre via the System Event Manager (SEM). The broad spectrum of this modular management concept is complemented by other Managers (e.g. Account Manager, Hotel Manager, etc.).

The various system configurations of networked systems can be compared centrally.

Access concept

Access to the system configuration is password-protected. Any user wanting to log in to a system is prompted for his user name and password (access data). The AIMS access concept consists of user accounts where the authorization profiles are assigned. The AIMS Administrator can open new accounts, create new profiles, assign profiles to the accounts, block accounts, and edit authorizations for existing profiles.

AIMS Shell

AIMS comprises several functional software modules. They are operated centrally from the AIMS Shell. AIMS is used to administer the systems, replicate the nodes of an Ascotel IntelliGate Net (AIN) and set the access parameters. The numbering plan of a private leased-line network can also be specified here across all the nodes.

AIMS manager

The AIMS Managers are functional software modules that are started from the AIMS Shell. The table below shows the main properties and functions of the individual AIMS Managers:

Overview of AIMS Managers

Symbol	Manager	Function
	Configuration Manager (CM)	• Configure system and customer data offline • Configure system and customer data online (via local access, dial-up access or LAN) • Adapt system or customer data flexibly and quickly
	Fault & Maintenance Manager (FM)	• Configure remote alarming • Display, evaluate and analyse event messages

Symbol	Manager	Function
	Account Manager (AM)	• Configuration of OCL and ICL data • Configuration of the OCL and ICL output interface • Recording of ICC data per subscriber, network interface or cost centre (totalizer only) • Configuration and allocation of the surcharge calculator to the ICC counters • Data import from LCR tables • LCR management
	Hotel Manager (HM)	• Check-in and check-out • Configure room phones • Acquisition and printout of call charges • Room management (room available, occupied) • Wake-up calls for guests
	Information Manager (IM)	Information Manager (IM) supports the customers with helpful offline documentation.
	Upload Manager (UM)	The Upload Manager (UM) is used to update the software of a system from the PC.
	Voice Mail Manager (VMM)	• Voice Mail System Configuration • 2 authorization levels: Attendant and Administrator
–	IP Gateway Manager (GM)	• Online configuration of the AIP 6400 (web browser)
	System Event Manager (SEM)	• Comprehensive centralized monitoring of event messages • Installation on several PCs possible • Particularly well suited for monitoring networked systems • Receives and processes messages via ISDN or TCP / IP

System Assistant

The System Assistant provides quick access to the main everyday system settings via Office 45 . This means that the following configurations, among others, can be carried out from a central administration point (e.g. the Secretariat).

- Editing subscriber names and numbers
- Entering abbreviated dialling numbers
- Unlocking phones if the password is no longer known
- Enabling remote maintenance

Project Manager

The Project Manager (PM) is used for recording and calculating the components required by a system and for rating an Ascotel IntelliGate Net (AIN).

The results of the calculations and the stored price list are then used to generate a quotation automatically, including accompanying documents such as a layout graphic.

The Project Manager is capable of automatically generating a subset of configuration data. This data can be imported directly into the Configuration Manager for further processing.

Features Overview

Here is provided an alphabetical overview in table form of the features that can be operated on the terminals.

Legend used in the table of features

	Menu or Foxkey-operated feature
ISDN	Feature available as a standard ISDN service (ETSI signalling) and therefore menu-operated on commercially available ISDN terminals (also via */# procedures)
*/# procedure	Feature actuated only by using a */# procedure. For pulse dialling telephones without the * key, a substitute * can be defined in the numbering plan (e.g. "9")
R	Feature actuated using the control key
✓	Feature available on the terminal
TM	Feature supported by the system. Its availability depends on the terminal
Digit	Digit suffix dialling (activated DTMF)
–	Feature not supported on this terminal

Features overview (several pages)

Features	GSM term.	SIP terminal	IP system term.	Office 45	Office 35	Office 25	Office 10	Office 160	Office 135	ISDN TM	Analogue (DTMF)
Abbreviated dialling numbers, throughout the system	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Acceptance of a call or data connection with preparation											
• Preparing to call takeover from nn to mm	*87 nn*mm #	*87 nn*mm #	*87 nn*mm #	*87 nn*mm #	*87 nn*mm #	*87 nn*mm #	*87 nn*mm #	*87 nn*mm #	*87 nn*mm #	*87 nn*mm #	*87 nn*mm #
• Preparing to handover data connection from nn to mm	*84 nn*mm #	*84 nn*mm #	*84 nn*mm #	*84 nn*mm #	*84 nn*mm #	*84 nn*mm #	*84 nn*mm #	*84 nn*mm #	*84 nn*mm #	*84 nn*mm #	*84 nn*mm #
• Clear preparation for handing over call to SC	#87 SC No.	#87 SC No.	#87 SC No.	#87 SC No.	#87 SC No.	#87 SC No.	#87 SC No.	#87 SC No.	#87 SC No.	#87 SC No.	#87 SC No.
• Clear preparation for handing over data connection to SC	#84 SC No.	#84 SC No.	#84 SC No.	#84 SC No.	#84 SC No.	#84 SC No.	#84 SC No.	#84 SC No.	#84 SC No.	#84 SC No.	#84 SC No.
• Activate prepared acceptance	*88# or *87*88	*88# or *87*88	*88# or *87*88	*88# or *87*88	*88# or *87*88	*88# or *87*88	*88# or *87*88	*88# or *87*88	*88# or *87*88	*88# or *87*88	*88# or *87*88
Acceptance of a call or ringing connection without preparation (Fast Take)	*88 SC No.	*88 SC No.	*88 SC No.	*88 SC No.	*88 SC No.	*88 SC No.	*88 SC No.	*88 SC No.	*88 SC No.	*88 SC No.	*88 SC No.
Allocate cost centre before the call	see under "Exchange Access"										
Announcement											
• Answer within the group	–	–					–	✓	✓	–	–
• Answer outside the group	*89	*89	*89	*89	*89	*89	*89	*89	*89	*89	*89
• Initiate to a subscriber	*7998 SC No.	*7998 SC No.	*7998 SC No.	*7998 SC No.	*7998 SC No.	*7998 SC No.	*7998 SC No.	*7998 SC No.	*7998 SC No.	*7998 SC No.	*7998 SC No.
• Initiate with autom. duplex-mode	–	–				–	–	–	–	–	–
• Initiate to a group	*79 Gr. No.	*79 Gr. No.	*79 Gr. No.	*79 Gr. No.	*79 Gr. No.	*79 Gr. No.	*79 Gr. No.	*79 Gr. No.	*79 Gr. No.	*79 Gr. No.	*79 Gr. No.
Answering general bell											
• Coded ringing	see under "Coded ringing on generalcall"										
• Ringing signal	*83	*83					*83			*83	*83

Features	GSM term.	SIP terminal	IP system term.	Office 45	Office 35	Office 25	Office 10	Office 160	Office 135	ISDN TM	Analogue (DTMF)
Appointment call											
• Activate individual call order	–	*55 hhmm	*55 hhmm	*55 hhmm	*55 hhmm	*55 hhmm	*55 hhmm	*55 hhmm	*55 hhmm	*55 hhmm	*55 hhmm
• Activate permanent call order	–	*56 hhmm	*56 hhmm	*56 hhmm	*56 hhmm	*56 hhmm	*56 hhmm	*56 hhmm	*56 hhmm	*56 hhmm	*56 hhmm
• Clear	–	#55 or #56	#55 or #56	#55 or #56	#55 or #56	#55 or #56	#55 or #56	#55 or #56	#55 or #56	#55 or #56	#55 or #56
Brokering											
• In an enquiry call	–	TM	✓	✓	✓	✓	✓	✓	✓	ISDN	R2
• with line key	–	–	✓	✓	✓	–	–	–	–	–	–
Busy panel	–	–	✓[1)]	✓	–	–	–	–	–	–	–
Call acceptance from connection	see under Acceptance of a call or ringing connection without preparation (Fast Take)										
Call charge display											
• For outgoing exchange calls	–	–	✓	✓	✓	✓	–	✓	✓	ISDN	–
• For transferred exchange calls	–	–	✓	✓	✓	✓	–	✓	✓	ISDN	–
Call charges											
• Charge management	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
• Transfer current call to another cost centre	*78 CC No.	*78 CC No.	*78 CC No.	*78 CC No.	*78 CC No.	*78 CC No.	*78 CC No.	*78 CC No.	*78 CC No.	*78 CC No.	*78 CC No.
• Individual charge counting (ICC)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
• Charge recall	–	–	*32 SC No.	*32 SC No.	*32 SC No.	*32 SC No.	–	*32 SC No.	*32 SC No.	*32 SC No.	–
Call deflection (CD)	see under "Deflecting a call during the ringing phase (CD)"										
Call door intercom	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Call Forwarding if Busy (CFB)											
• Activate	*67 Dest. No.	*67 Dest. No.	✓	✓	✓ .	✓	*67 Dest. No.	*67 Dest. No.	*67 Dest. No.	ISDN	*67 Dest. No.
• Activate to SC last configured	*67#	*67#	✓	✓	✓	✓	*67#	*67#	*67#	*67#	*67#
• Clear	#67	#67	#67	#67	#67	#67	#67	#67	#67	#67	#67
Call Forwarding on No Reply (CFNR)											
• Activate	*61 Dest. No.	*61 Dest. No.	✓	✓	✓	✓	*61 Dest. No.	✓	✓	*61 Dest. No.	*61 Dest. No.
• To SC last configured	*61#	*61#	✓	✓	✓	✓	*61#	✓	✓	*61#	*61#
• Clear	#61	#61	✓	✓	✓	✓	#61	✓	✓	#61	#61
• Activate on preconfigured subscriber	*62	*62	*62	*62	*62	*62	*62	*62	*62	*62	*62
• Clear to preconfigured SC	#62	#62	#62	#62	#62	#62	#62	#62	#62	#62	#62
• Activate on general bell with coded ringing	*68	*68	✓	✓	✓	✓	*68	✓	✓	*68	*68
• Clear to general bell with coded ringing	#68	#68	✓	✓	✓	✓	#68	✓	✓	#68	#68
• To pager	*68	*68	✓	✓	✓	✓	*68	✓	✓	*68	*68
• Clear to pager	#68	#68	✓	✓	✓	✓	#68	✓	✓	#68	#68
• Protect against	*02	*02	*02	*02	*02	*02	*02	*02	*02	*02	*02
• Allow to own set	#02	#02	#02	#02	#02	#02	#02	#02	#02	#02	#02

Features	GSM term.	SIP terminal	IP system term.	Office 45	Office 35	Office 25	Office 10	Office 160	Office 135	ISDN TM	Analogue (DTMF)
Call Forwarding Unconditional (CFU)											
• Activate	*21 Dest. No.	*21 Dest. No.					*21 Dest. No.			*21 Dest. No.	*21 Dest. No.
• Activate to SC last configured	*21#	*21#					*21#			*21#	*21#
• Clear	#21	#21					#21			#21	#21
• Activate to preconfigured SC	*22	*22	*22	*22	*22	*22	*22	*22	*22	*22	*22
• Clear to preconfigured SC	#22	#22					#22			#22	#22
• Activate to general bell with coded ringing / PS	*28	*28					*28			*28	*28
• Clear to general bell with coded ringing / PS	#28	#28					#28			#28	#28
• Activate to standard text	*24 Text No. Param.#	*24 Text No. Param.#					*24 Text No. Param.#			*24 Text No. Param.#	*24 Text No. Param.#
• Clear to standard text	#24	#24					#24			#24	#24
• Protect against	*02	*02	*02	*02	*02	*02	*02	*02	*02	*02	*02
• Allow to own set	#02	#02	#02	#02	#02	#02	#02	#02	#02	#02	#02
Call transfer											
• after enquiry call	–	TM	✓	✓	✓	✓	✓	✓	✓	ISDN	✓
• without enquiry call	–	TM	✓	✓	✓	✓	✓	✓	✓	ISDN	✓
• Explicit call transfer (ECT)	–	–	–	–	–	–	–	–	–	ISDN	✓
Call waiting											
• Activate	–	–					*43 / 6			*43 / 6	R*43 / R6
• Reject	–	–					End			ISDN	R0
• Answer with hold	–	–								ISDN	R2
• Answer without hold	–	–					1			ISDN	R1
• Answer, with conference	–	–	3	3	3	3	3	3	3	ISDN	R3
• Protect against	–	–	*04	*04	*04	*04	*04	*04	*04	*04	*04
• Allow to own set	–	–	#04	#04	#04	#04	#04	#04	#04	#04	#04
Callback if SC busy (CCBS) / available subscriber											
• Activate	–	–								ISDN	R9 or R*37
• Clear	–	–					#37			#37	#37
Change PIN x: old PIN, y: new PIN	*47 x * y * y #	✓	✓[2)]				*47 x * y * y #			*47 x * y * y #	*47 x * y * y #
Clear configuration	*00	*00	*00	*00	*00	*00	*00	*00	*00	*00	*00
Coded ringing on generalcall											
• Activate in prefix dialling	*81 SC No.	*81 SC No.					*81 SC No.			*81 SC No.	*81 SC No.
• Activate in suffix dialling	–	–					*81 / 8			*81 / 8	R8 or R*81
• Answer	*82	*82					*82			*82	*82
Conference											
• Set up (from connection)	–	TM								ISDN	R3
• Set up (variable)	–	–	*71 SC No.	*71 SC No.	*71 SC No.	*71 SC No.	*71 SC No.	*71 SC No.	*71 SC No.	*71 SC No.	*71 SC No.

Features	GSM term.	SIP terminal	IP system term.	Office 45	Office 35	Office 25	Office 10	Office 160	Office 135	ISDN TM	Analogue (DTMF)
• Expand (variable)	–	–	*SC No.	*SC No.	*SC No.	*SC No.	*SC No.	*SC No.	*SC No.	*SC No.	R*SC No.
• Terminate (variable)	–	–	#	#	#	#	#	#	#	#	#
• Exclude subscriber (internal)	–	–	#71	#71	#71	#71	#71	#71	#71	#71	R#71
• Set up (predetermined)	*70 Conf. No.	*70 Conf. No.	*70 Conf. No.	*70 Conf. No.	*70 Conf. No.	*70 Conf. No.	*70 Conf. No.	*70 Conf. No.	*70 Conf. No.	*70 Conf. No.	*70 Conf. No.
Courtesy Service (Announcement prior to answering)											
• Activate	*93x	*93x	*93x	*93x	*93x	*93x	*93x	*93x	*93x	*93x	*93x
• Deactivate	#93x	#93x	#93x	#93x	#93x	#93x	#93x	#93x	#93x	#93x	#93x
• Record with handset	*91xy [*nn] #	*91xy [*nn] #	*91xy [*nn] #	*91xy [*nn] #	*91xy [*nn] #	*91xy [*nn] #	*91xy [*nn] #	*91xy [*nn] #	*91xy [*nn] #	*91xy [*nn] #	*91xy [*nn] #
• Recording with audio equipment	*92xy [*nn] #	*92xy [*nn] #	*92xy [*nn] #	*92xy [*nn] #	*92xy [*nn] #	*92xy [*nn] #	*92xy [*nn] #	*92xy [*nn] #	*92xy [*nn] #	*92xy [*nn] #	*92xy [*nn] #
• Check the recording	*#91xy [*nn] # or *#92xy [*nn]	*#91xy [*nn] # or *#92xy [*nn]	*#91xy [*nn] # or *#92xy [*nn]	*#91xy [*nn] # or *#92xy [*nn]	*#91xy [*nn] # or *#92xy [*nn]	*#91xy [*nn] # or *#92xy [*nn]	*#91xy [*nn] # or *#92xy [*nn]	*#91xy [*nn] # or *#92xy [*nn]	*#91xy [*nn] # or *#92xy [*nn]	*#91xy [*nn] # or *#92xy [*nn]	*#91xy [*nn] # or *#92xy [*nn]
• Delete the recording	#91xy [*nn] # or #92xy [*nn] #	#91xy [*nn] # or #92xy [*nn] #	#91xy [*nn] # or #92xy [*nn] #	#91xy [*nn] # or #92xy [*nn] #	#91xy [*nn] # or #92xy [*nn] #	#91xy [*nn] # or #92xy [*nn] #	#91xy [*nn] # or #92xy [*nn] #	#91xy [*nn] # or #92xy [*nn] #	#91xy [*nn] # or #92xy [*nn] #	#91xy [*nn] # or #92xy [*nn] #	#91xy [*nn] # or #92xy [*nn] #
x = Group [1...2] y = switch position [1...3] nn = node number (optional)											
Deflecting a call during the ringing phase (CD)	–	–	✓	✓	✓	✓	–	✓	✓	TM	–
Dialling by name	–	–	✓	✓	✓	–	–	✓	✓	–	–
Discreet ringing											
• Activate	–	–	✓	✓	✓	–	–	✓	✓	–	–
• Deactivate	–	–	✓	✓	✓	–	–	✓	✓	–	–
Display caller's name (CLIP / COLP)	TM	TM	✓	✓	✓	✓	–	✓	✓	ISDN	–
Display caller's name (CNIP / CONP)	TM	TM	✓	✓	✓	✓	–	✓	✓	ISDN	–
Do not disturb											
• Activate	*26	*26	✓	✓	*26	*26	*26	*26	*26	*26	*26
• Clear	#26	#26	✓	✓	#26	#26	#26	#26	#26	#26	#26
DTMF dialling	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Duplex mode	see under "Announcement"										
Emergency / priority exchange seizure	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Emergency number	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Enquiry call											
• To own system	–	TM	✓	✓	✓	✓	✓	✓	✓	ISDN	R SC No.
• To up-circuit system	–	–	*42 SC No.	*42 SC No.	*42 SC No.	*42 SC No.	*42 SC No.	*42 SC No.	*42 SC No.	*42 SC No.	R*42 SC No.
Exchange Access											
• Business (example CH)	0	0	0	0	0	0	0	0	0	0	0

Features	GSM term.	SIP terminal	IP system term.	Office 45	Office 35	Office 25	Office 10	Office 160	Office 135	ISDN TM	Analogue (DTMF)
• Least Cost Routing	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
• LCR (fallback)	*90	*90	*90	*90	*90	*90	*90	*90	*90	*90	*90
• Private (example CH)	10	10	10	10	10	10	10	10	10	10	10
• With cost centre nn	13nn	13nn	13nn	13nn	13nn	13nn	13nn	13nn	13nn	13nn	13nn
• With charge recall	–	–	*32 SC No.	*32 SC No.	*32 SC No.	*32 SC No.	–	*32 SC No.	*32 SC No.	*32 SC No.	–
• Route selection, targeted (n depends on the system)	170 to n	170 to n	170 to n	170 to n	170 to n	170 to n	170 to n	170 to n	170 to n	170 to n	170 to n
Fast Take	see under Acceptance of a call or ringing connection without preparation (Fast Take)										
Fetch call (x: SC No. / UG No. / CDE No.)	*86 x	*86 x	✓	✓	✓	✓	*86 x	✓	✓	*86 x	*86 x
Follow me											
• Activate	*23 SC No.	*23 SC No.	*23 SC No.	*23 SC No.	*23 SC No.	*23 SC No.	*23 SC No.	*23 SC No.	*23 SC No.	*23 SC No.	*23 SC No.
• Clear	#23	#23	#23	#23	#23	#23	#23	#23	#23	#23	#23
Generating an event message (triggering a user alarm) nnn = 0000..9999	*77nnn n	*77nnn n	*77nnn n	*77nnn n	*77nnn n	*77nnn n	*77nnn n	*77nnn n	*77nnn n	*77nnn n	*77nnn n
Hold connection (HOLD)	–	✓	✓	✓	✓	✓	✓	✓	✓	ISDN	✓
Intrusion											
• Activate	–	–	✓	✓	*44	*44	*44	*44	*44	–	R7 or R*44
• Reject	–	–	✓	✓	✓	✓	0	✓	✓	–	R0
• Answer with hold	–	–	✓	✓	✓	✓	2	✓	✓	–	R2
• Answer without hold	–	–	✓	✓	✓	✓	1	✓	✓	–	R1
• Answer with conference	–	–	3	3	3	3	3	3	3	–	R3
• Protect against	–	–	*04	*04	*04	*04	*04	*04	*04	*04	*04
• Allow to own set	–	–	#04	#04	#04	#04	#04	#04	#04	#04	#04
Leave message											
• Standard	*24 Text No. Param.#	*24 Text No. Param.#	✓	✓	✓	✓	*24 Text No. Param.#	✓	✓	*24 Text No. Param.#	*24 Text No. Param.#
• Own	–	–	✓	✓	✓	✓	–	✓	✓	–	–
• delete / deactivate	#24	#24	✓	✓	✓	✓	#24	✓	✓	#24	#24
List of callers	TM	TM	✓	✓	✓	✓	–	✓	✓	TM	–
Making calls with your own settings on a third-party telephone											
• Business calls	#36 SC No. PIN	#36 SC No. PIN	#36 SC No. PIN	#36 SC No. PIN	#36 SC No. PIN	#36 SC No. PIN	#36 SC No. PIN	#36 SC No. PIN	#36 SC No. PIN	#36 SC No. PIN	#36 SC No. PIN
• Private calls	#46 SC No. PIN	#46 SC No. PIN	#46 SC No. PIN	#46 SC No. PIN	#46 SC No. PIN	#46 SC No. PIN	#46 SC No. PIN	#46 SC No. PIN	#46 SC No. PIN	#46 SC No. PIN	#46 SC No. PIN
MESSAGE LED											
• Activate (prefix dialling)	*38 SC No.	*38 SC No.	✓	✓	✓	✓	*38 SC No.	✓	✓	*38 SC No.	*38 SC No.
• Activate (suffix dialling)	–	–	–	–	–	–	–	–	–	–	R*38
• Answer (own set)	–	–	✓	✓	✓	✓	*#38	✓	✓	–	–
• Clear (own set)	–	–	✓	✓	✓	✓	#38#	✓	✓	–	–
• Clear (destination set)	#38 SC No.	#38 SC No.	✓	✓	✓	✓	#38 SC No.	✓	✓	–	#38 SC No.

Features	GSM term.	SIP terminal	IP system term.	Office 45	Office 35	Office 25	Office 10	Office 160	Office 135	ISDN TM	Analogue (DTMF)
Music on hold											
• Record with handset	*914 [*nn] #	*914 [*nn] #	*914 [*nn] #	*914 [*nn] #	*914 [*nn] #	*914 [*nn] #	*914 [*nn] #	*914 [*nn] #	*914 [*nn] #	*914 [*nn] #	*914 [*nn] #
• Record using a tape recorder	*924 [*nn] #	*924 [*nn] #	*924 [*nn] #	*924 [*nn] #	*924 [*nn] #	*924 [*nn] #	*924 [*nn] #	*924 [*nn] #	*924 [*nn] #	*924 [*nn] #	*924 [*nn] #
• Check the recording	*#914 [*nn] # or *#924 [*nn]	*#914 [*nn] # or *#924 [*nn]	*#914 [*nn] # or *#924 [*nn]	*#914 [*nn] # or *#924 [*nn]	*#914 [*nn] # or *#924 [*nn]	*#914 [*nn] # or *#924 [*nn]	*#914 [*nn] # or *#924 [*nn]	*#914 [*nn] # or *#924 [*nn]	*#914 [*nn] # or *#924 [*nn]	*#914 [*nn] # or *#924 [*nn]	*#914 [*nn] # or *#924 [*nn]
• Delete the recording	#914 [*nn] # or #924 [*nn] #	#914 [*nn] # or #924 [*nn] #	#914 [*nn] # or #924 [*nn] #	#914 [*nn] # or #924 [*nn] #	#914 [*nn] # or #924 [*nn] #	#914 [*nn] # or #924 [*nn] #	#914 [*nn] # or #924 [*nn] #	#914 [*nn] # or #924 [*nn] #	#914 [*nn] # or #924 [*nn] #	#914 [*nn] # or #924 [*nn] #	#914 [*nn] # or #924 [*nn] #
nn = node number (optional)											
Opening doors	*74<No. Door intercom system>	*74<No. Door intercom system>	*74<No. Door intercom system>	*74<No. Door intercom system>	*74<No. Door intercom system>	*74<No. Door intercom system>	*74<No. Door intercom system>	*74<No. Door intercom system>	*74<No. Door intercom system>	*74<No. Door intercom system>	*74<No. Door intercom system>
Pager functions											
• Search (prefix dialling)	*81 SC No.	*81 SC No.	✓	✓	✓	✓	*81 SC No.	✓	✓	*81 SC No.	*81 SC No.
• Search (suffix dialling)	–	–	✓	✓	✓	✓	*81	✓	✓	*81	R8 or R*81
• Answer	*82	*82	✓	✓	✓	✓	*82	✓	✓	*82	*82
Park											
• with line key	–	–	✓	✓	✓	–	–	–	–	–	–
• with park key (local)	–	–	✓	✓	✓	–	–	✓	✓	–	–
• Central parking	–	–	*76	*76	*76	*76	*76	*76	*76	*76	R*76
• Connect with centrally parked SC	#76	#76	#76	#76	#76	#76	#76	#76	#76	#76	#76
Phone book (names / numbers)	–	–	✓	✓	✓	✓	✓	✓	✓	–	–
Phone lock (subscriber)											
• Activate	*33 PIN #	*33 PIN #	✓[2)]	✓	✓	✓	*33 PIN #	✓	✓	*33 PIN #	*33 PIN #
• Deactivate	#33 PIN #	#33 PIN #	✓[2)]	✓	✓	✓	#33 PIN #	✓	✓	#33 PIN #	#33 PIN #
• Single call unlock	#36 SC No. PIN	#36 SC No. PIN	#36 SC No. PIN	#36 SC No. PIN	#36 SC No. PIN	#36 SC No. PIN	#36 SC No. PIN	#36 SC No. PIN	#36 SC No. PIN	#36 SC No. PIN	#36 SC No. PIN
Private calls with PIN	#46 SC No. PIN	#46 SC No. PIN	#46 SC No. PIN	#46 SC No. PIN	#46 SC No. PIN	#46 SC No. PIN	#46 SC No. PIN	#46 SC No. PIN	#46 SC No. PIN	#46 SC No. PIN	#46 SC No. PIN
Recording malicious calls (MCID)	–	–	✓	✓	✓	✓	✓	✓	✓	ISDN	–
Reject call	–	–	✓	✓	✓	✓	–	✓	✓	ISDN	–
Relays											
• Activate (PBX)	*74 <Relay No.>	*74 <Relay No.>	*74 <Relay No.>	*74 <Relay No.>	*74 <Relay No.>	*74 <Relay No.>	*74 <Relay No.>	*74 <Relay No.>	*74 <Relay No.>	*74 <Relay No.>	*74 <Relay No.>
• Deactivate (PBX)	#74 <Relay No.>	#74 <Relay No.>	#74 <Relay No.>	#74 <Relay No.>	#74 <Relay No.>	#74 <Relay No.>	#74 <Relay No.>	#74 <Relay No.>	#74 <Relay No.>	#74 <Relay No.>	#74 <Relay No.>

Features	GSM term.	SIP terminal	IP system term.	Office 45	Office 35	Office 25	Office 10	Office 160	Office 135	ISDN TM	Analogue (DTMF)
Remote control features	*06 SC No. LM Proc.	*06 SC No. LM Proc.	*06 SC No. LM Proc.	*06 SC No. LM Proc.	*06 SC No. LM Proc.	*06 SC No. LM Proc.	*06 SC No. LM Proc.	*06 SC No. LM Proc.	*06 SC No. LM Proc.	*06 SC No. LM Proc.	*06 SC No. LM Proc.
Remote maintenance / configuration											
• Enable/bar a one-off remote maintenance	*754 / #754	*754 / #754	*754 / #754	*754 / #754	*754 / #754	*754 / #754	*754 / #754	*754 / #754	*754 / #754	*754 / #754	*754 / #754
• Enable/bar a repeated remote maintenance access	*753 / #753	*753 / #753	*753 / #753	*753 / #753	*753 / #753	*753 / #753	*753 / #753	*753 / #753	*753 / #753	*753 / #753	*753 / #753
Ringing relay with delay (line keys and team keys)	–	–	0, 10, 20, 30 s 3)	0, 10, 20, 30 s	0, 10, 20, 30 s	–	–	–	–	–	–
Secret code (disable room-to-room barring)	*34	*34	*34	*34	*34	*34	*34	*34	*34	*34	*34
Subaddressing (SUB)	–	–	–	–	–	–	–	–	–	ISDN	–
Suppression of the call number display (CLIR)											
• activate permanently	*31#	*31#	*31#	*31#	*31#	*31#	*31#	*31#	*31#	*31#	*31#
• deactivate permanently	#31#	#31#	#31#	#31#	#31#	#31#	#31#	#31#	#31#	#31#	#31#
• Activate for each call	*31 Dest. No.	*31 Dest. No.	*31 Dest. No.	*31 Dest. No.	*31 Dest. No.	*31 Dest. No.	*31 Dest. No.	*31 Dest. No.	*31 Dest. No.	*31 Dest. No.	*31 Dest. No.
• Deactivate for each call	#31 Dest. No.	#31 Dest. No.	#31 Dest. No.	#31 Dest. No.	#31 Dest. No.	#31 Dest. No.	#31 Dest. No.	#31 Dest. No.	#31 Dest. No.	#31 Dest. No.	#31 Dest. No.
Switch over switch groups 01…20											
• Switch group xx in pos. y xx = Group [01...20] y = switch position [1...3]	*85 xx y	*85 xx y	*85 xx y	*85 xx y	*85 xx y	*85 xx y	*85 xx y	*85 xx y	*85 xx y	*85 xx y	*85 xx y
System time / System date											
• Set up the system time	*57 hh mm	*57 hh mm	*57 hh mm	*57 hh mm	*57 hh mm	*57 hh mm	*57 hh mm	*57 hh mm	*57 hh mm	*57 hh mm	*57 hh mm
• Set up the system date	*58 dd mm yyyy	*58 dd mm yyyy	*58 dd mm yyyy	*58 dd mm yyyy	*58 dd mm yyyy	*58 dd mm yyyy	*58 dd mm yyyy	*58 dd mm yyyy	*58 dd mm yyyy	*58 dd mm yyyy	*58 dd mm yyyy
Team keys	–	–	✓	✓	✓	–	–	–	–	–	–
Take	see under Acceptance of a call or data connection with preparation										
Text messages											
• View	–	–	✓	✓	✓	✓	–	✓	✓	–	–
• Send (standard text with / without parameters) to SC	*3598 SC No. Text No.#	*3598 SC No. Text No.#	✓	✓	✓	✓	*3598 SC No. Text No.#	✓	✓	*3598 SC No. Text No.#	*3598 SC No. Text No.#
• Send (standard text with / without parameters) to group	*35 Gr. No. Text No.#	*35 Gr. No. Text No.#	✓	✓	✓	✓	*35 Gr. No. Text No.#	✓	✓	*35 Gr. No. Text No.#	*35 Gr. No. Text No.#
• Send (standard text with / without parameters) to all	*3599 Text No.#	*3599 Text No.#	✓	✓	✓	✓	*3599 Text No.#	✓	✓	*3599 Text No.#	*3599 Text No.#
• Send user-definable message text	–	–	✓	✓	✓	✓	–	✓	✓	–	–
Transfer cost centre during the call	see under "Call charges"										

Features	GSM term.	SIP terminal	IP system term.	Office 45	Office 35	Office 25	Office 10	Office 160	Office 135	ISDN TM	Analogue (DTMF)
Two-company configuration	–	–	–	✓	–	–	–	–	–	–	–
User groups											
• Log into all user groups	*4800	*4800	*4800	*4800	*4800	*4800	*4800	*4800	*4800	*4800	*4800
• Log out of all user groups	#4800	#4800	#4800	#4800	#4800	#4800	#4800	#4800	#4800	#4800	#4800
• Log into specific user groups	*48 UG No.	*48 UG No.	*48 UG No.	*48 UG No.	*48 UG No.	*48 UG No.	*48 UG No.	*48 UG No.	*48 UG No.	*48 UG No.	*48 UG No.
• Log out of specific user groups	#48 UG No.	#48 UG No.	#48 UG No.	#48 UG No.	#48 UG No.	#48 UG No.	#48 UG No.	#48 UG No.	#48 UG No.	#48 UG No.	#48 UG No.
User-to-user signalling (UUS-1)	–	–	–	–	–	–	–	–	–	ISDN	–
Voice Mail (standard)											
• Record greeting with terminal (x = 1,2,3,7,8)	*913x [*nn] #	*913x [*nn] #	*913x [*nn] #	*913x [*nn] #	*913x [*nn] #	*913x [*nn] #	*913x [*nn] #	*913x [*nn] #	*913x [*nn] #	*913x [*nn] #	*913x [*nn] #
• Record greeting with audio equipment (x = 1,2,3,7,8)	*923x [*nn] #	*923x [*nn] #	*923x [*nn] #	*923x [*nn] #	*923x [*nn] #	*923x [*nn] #	*923x [*nn] #	*923x [*nn] #	*923x [*nn] #	*923x [*nn] #	*923x [*nn] #
• Check the recording (x = 1,2,3,7,8)	*#913x [*nn] # or *#923x [*nn]	*#913x [*nn] # or *#923x [*nn]	*#913x [*nn] # or *#923x [*nn]	*#913x [*nn] # or *#923x [*nn]	*#913x [*nn] # or *#923x [*nn]	*#913x [*nn] # or *#923x [*nn]	*#913x [*nn] # or *#923x [*nn]	*#913x [*nn] # or *#923x [*nn]	*#913x [*nn] # or *#923x [*nn]	*#913x [*nn] # or *#923x [*nn]	*#913x [*nn] # or *#923x [*nn]
• Delete the recording (x = 1,2,3,7,8)	#913x [*nn] # or #923x [*nn] #	#913x [*nn] # or #923x [*nn] #	#913xx[*nn] # or #923x [*nn] #	#913x [*nn] # or #923x [*nn] #	#913x [*nn] # or #923x [*nn] #	#913x [*nn] # or #923x [*nn] #	#913x [*nn] # or #923x [*nn] #	#913x [*nn] # or #923x [*nn] #	#913x [*nn] # or #923x [*nn] #	#913x [*nn] # or #923x [*nn] #	#913x [*nn] # or #923x [*nn] #
• Activate greeting (x = 1,2,3)	*933x	*933x	*933x	*933x	*933x	*933x	*933x	*933x	*933x	*933x	*933x
• Deactivate greeting (x = 1,2,3)	#933x	#933x	#933x	#933x	#933x	#933x	#933x	#933x	#933x	#933x	#933x

x = 1,2,3: personal greeting 1,2,3 x = 7: global greeting x = 8: global overflow greeting nn = node number (optional)

[1] applies only to Office 35IP

[2] onOffice 35IP via the Foxkey

[3] Office 35IP only

System limits

System limits are defined on the one hand by the existing hardware with its expansion possibilities and on the other by the limits set in the software. The software limits can be enabled in part by licences.

General customer data

General system limits

Max. number	Ascotel IntelliGate 2025	Ascotel IntelliGate 2045	Ascotel IntelliGate 2065	Ascotel IntelliGate Net
Satellites in an AIN	-	-	-	40
Expansion slots	5	5	14	cumulated
Subscriber with own number[1)]	30	60	400	600
Simultaneous connections				
• AD2, a/b, S total (external)	30[2)]	60[2)]	120[3)]	cumulated
• Internal, total	15	30	120	cumulated
• DECT – not DECT (internal / external)	16	36	80	cumulated
• DECT-DECT (internal)	15	30	120	cumulated
• VoIP – VoIP via SIP access[5)] (external)	30[2)]	60[2)]	120[4)]	cumulated
• VoIP – not VoIP (internal / external)	22	38	76	cumulated
VoIP channels with AIP-6400	1 x 12	2 x 12	4 x 12	cumulated
VoIP channels with AIP-6500	1 x 16	2 x 16	4 x 16	cumulated
VoIP channels without AIP cards[5)]	6	6	12	cumulated
Total of VoIP channels[5)]	22	38	76	cumulated
Trunk groups	16	32	122	170
Trunk groups in route	8	8	8	as for 2065
Network interfaces per trunk group	8	8	64	as for 2065
Routes	24	24	100	200
B Channel Groups	16	32	122	170
SIP Provider	10	10	10	10
SIP user account	500	500	500	500
Direct Dialling Plans	10	10	10	as for 2065
Total DDI numbers	500	500	4000	as for 2065
Call Distribution Elements	500	500	4000	as for 2065
User Groups	21	21	99	as for 2065
Subscribers per user group with global call distribution	16	16	16	as for 2065
Subscribers per user group without global call distribution	30	60	400	600
Abbreviated dialling numbers + PISN subscribers	1500	1500	4000	as for 2065
Line keys per key telephone	39	39	39	as for 2065
Switch Groups	20	20	20	as for 2065
Positions per switch group	3	3	3	as for 2065
Hotline destinations	20	20	20	as for 2065
Emergency number destinations	50	50	50	as for 2065
Emergency numbers	10	10	10	as for 2065

Max. number	Ascotel IntelliGate 2025	Ascotel IntelliGate 2045	Ascotel IntelliGate 2065	Ascotel IntelliGate Net
External digit barring	8	8	16	as for 2065
Internal digit barring	8	8	16	as for 2065
Predefined text messages	16	16	16	as for 2065
Announcement / message groups	8	8	16	as for 2065
Subscriber per announcement / message group	16	16	16	as for 2065
Data service tables	8	8	32	as for 2065
X.25 D channels	3	5	16	as for 2065
User accounts for User Access Control	25	25	25	as for 2065
Authorization profiles for user accounts	25	25	25	as for 2065
Log entries per user account	20	20	20	as for 2065
First-party CTI users via LAN[5)]	30	32	32	as for 2065
Third-party CTI interfaces	1	1	1	as for 2065
Third-Party CTI Interface (Basic, Standard)[5)]	30	60	400	600
Third-Party CTI Interface (Professional)[5)]	10	30	150	as for 2065
Mailboxes with AVS Voice Mail System	600[6)]	600[6)]	600[6)]	as for 2065[7)]
Mailboxes with Standard Voice Mail System	30	60	400	600
Greetings per mailbox	3	3	3	as for 2065
Profiles per mailbox for Automated Attendant	3	3	3	as for 2065
Total charge counters (subscribers, network interfaces, cost centres)	210	238	2028	as for 2065
Call data memory internal (number of records)	300	300	1000	as for 2065
Phonebook entries	8000	8000	12000	as for 2065
Call list entries	8000	8000	16000	as for 2065
Freely configurable keys	4000	4000	5000	as for 2065
Expansion keypad (EKP)	96	96	96	192
Alpha keyboard (AKB)	24	60	400	500

1) Incl. pager, DECT subscribers, virtual subscribers, GSM subscribers, etc.

2) Limited by the number of subscribers

3) Limited by the software/hardware limits

4) Limited by the licence limits

5) Licences required

6) With AVS software V6.6 or later

7) In an AIN a Voice Mail card can only be operated in the Master. It is not possible to operate Voice Mail cards in satellites (not even in offline mode).

User-network and network interfaces

User-network and network interfaces

Max. number...	Ascotel IntelliGate 2025	Ascotel IntelliGate 2045	Ascotel IntelliGate 2065	Ascotel IntelliGate Net
Total user-network interfaces (AD2, a/b, S)	16	40	320	500
AD2 user-network interfaces	12	36	320	500
Analogue user-network interfaces (a/b) DTMF / PD (incl. voice mail ports)	12	23	168[1)]	500
S user-network interfaces	7	11	64	as for 2065
Total network interfaces (a/b, T, T2, S external, SIP)	10	20	74	as for 2065
Analogue network interfaces (a/b) DTMF / PD	4	8	32[2)]	as for 2065
Basic accesses, total (T, S external)	7	11	64	as for 2065
Total primary rate accesses (T2, AIP 6400)	2	4	16	32
Interfaces S, total of S external + T	7	11	64	as for 2065
IP interfaces with up to AIP 6400 or AIP 6500	1	2	4	as for 2065
SIP access	10	10	10	as for 2065
SIP access channels	30[3)]	60[3)]	120[3)]	as for 2065

[1)] For performance reasons max. 56 terminals per PBX with pulse dialling are permitted.

[2)] For performance reasons a maximum of 16 interfaces is permitted in pulse dialling mode per PBX.

[3)] Licences required

Terminals

Max. number of terminals per system and interface

Interface	Terminal type	System Terminals	2025 per system	2045 per system	2065 per system	Ascotel IntelliGate Net	per interface
Miscellaneous	Total terminals corded (incl. DECT RU)		30	60	400	500	
AD2	Terminals on AD2 (incl. DECT RU)		24	60	400	500	
	Featurephones / system terminals	Office 10 Office 25 Office 35 Office 45	24	60	400	500	2
	Operator Consoles	Office 45	3	6	12	as for 2065	2
	V.24 interface	OfficePocket Adapter	12	36	160	as for 2065	1
	Cordless System	Ascotel DECT Radio unit[1)]	4	32[2)]	128	as for 2065	1
DECT	Handsets	Office 135 Office 160pro DCT terminals GAP terminals	30	60	400	600	
LAN	IP terminals	Office 35IP Office 1560IP Office 1600IP SIP terminals	30	60	400	600	
-	GSM Terminals		30	60	255	as for 2065	
S	Terminals on S interfaces (total)		30	60	250	as for 2065	8[3)]
	Paging system	teleCOURIER pager	30	60	400	as for 2065	
	Terminals as per ETSI standard • ISDN terminals • ISDN PC cards • ISDN LAN routers • ISDN Terminal Adapters		30	60	250	as for 2065	8
a/b	Terminals on a/b interfaces (total)[4)]		12	23	168	500	1
	Analogue, nationally approved terminals • Pulse dialling (PUL) • Frequency dialling (DTMF) • Group 3 fax machines[5)] • Answering machines • Modems		12	23	168 [6)]	500 [6)]	1

1) DSP cards required.

2) Maximum of 18 SB-8 radio units for operation on two AD2 interfaces in each case

3) Maximum of 2 call connections possible simultaneously

4) The Ascotel Voice Mail System occupies 2 or 4 a/b interfaces.

5) In an AIN the fax has to have memory in the send and receive direction and support "Retransmission".

6) For performance reasons max. 56 terminals per PBX with pulse dialling are permitted.

Licences

Certain system limits are scalable through licence acquisition. The following licences are available:

- “PBX System Upgrade to 2045”
  This licence upgrades an Ascotel IntelliGate 2025 to an Ascotel IntelliGate 2045 by increasing the system limits. For both systems all the slots are available. Ascotel IntelliGate 2025 does not require a licence.
- "QSIG channels"
  These licences are used to implement a private leased-line network with QSIG by enabling a specific number of simultaneously outgoing QSIG channels. Various licence levels are available (see "Overview of licences", page 59).
- "OIP"
  Allows the use of the Open Interfaces Platform (OIP). This licence cannot be purchased individually but as part of other licences (see "Overview of licences", page 59).
- "OIP Call Centre"
  Enables the "ACD Manager" and "Agent Manager" functionality of the Open Interfaces Platform. Only one "OIP Call Centre" licence is required per system. The operator consoles of a Office 1560 or Office 1560IP are enabled with the licences “CTI Third Party Upgrade to Professional” and “Office 1560” or “Office 1560IP”. The workgroups of a Office 1600 or Office 1600IP are enabled with the licences “CTI Third Party Upgrade to Professional” and “Office 1600” or “Office 1600IP”. Note:
  This licence does not replace the licences “CTI Third Party Upgrade to Professional”.
- "CTI First Party via LAN"
  This basic licence enables the CTI basic functions via Ethernet interface (e.g. for using a PC dial help) for all internal subscribers. It cannot be combined with CTI third-party licences. OIP is not required for operation and is therefore not part of the licence.
  Note: No licence is required for the first-party CTI via Pocket-Adapter (see also System Manual Application Interfaces).
- Third-party CTI licences
  These licences enable the CTI features on the third-party CTI interface of the Ascotel IntelliGate. This means a specific number of users (CTI Clients) can control and supervise system terminals simultaneously via a CTI application. Three licence levels are available:
  - "CTI Third Party Basic"
    The basic licence enables the CTI basic functions (e.g. for using a PC dial help) for all internal subscribers. The licence can be combined with the “CTI Third Party Standard” licence.
  - "CTI Third Party Standard"
    The standard licence authorises the use of a standard CTI application. One licence has to be purchased for each CTI standard client.
  - "CTI Third Party Upgrade to Professional"
    Area of application 1: Together with the “CTI Third Party Standard” licence the functional scope of an existing licensed standard CTI client is expanded to include ACD features. This enables the use of Ascotel IntelliGate together with call centre applications. One licence has to be purchased for each standard CTI client.
    Area of application 2: The workgroups of a Office 1600 or Office 1600IP are enabled with the licence “OIP Call Centre” and a “Office 1600” or “Office 1600IP” licence. One licence has to be purchased for each terminal.
    Area of application 3: The operator console groups of a Office 1560 or Office 1560IP are enabled with the licence “OIP Call Centre” and a “Office 1560” or “Office 1560IP” licence. One licence has to be purchased for each terminal.

For more detailed information on the CTI licences, please refer to the Application Interfaces System Manual.

- "ATAS Interface" / "ATASpro Interface"
  This licence expands the possibilities for connecting external alarm and messaging sources by providing the Ethernet interface in addition to the Pocket Adapter. The licences also offer additional possibilities compared with ATPCx (e.g. displaying the Fox menu on system terminals and triggering an alarm with the Redkey).
  The "ATASpro Interface" licence can also be used to determine the position of users of DECT handsets, which can be visualized with the appropriate applications.
- "Advanced Messaging"
  Enables the SMPP protocol to be used for integrating an SMS server and 9d handsets to be logged on as system terminals (Ascom Wireless Solutions products). User-friendly messaging systems can then be implemented with Ascotel IntelliGate.
- "SMPP"
  This licence allows the use of the SMPP protocol. It is visible only in AIMS (not on the licence server). The licence cannot be purchased individually but is part of the “Advanced Messaging” licence.
- "Ascotel Mobility Interface (AMI)"
  For the implementation of large-scale DECT systems Ascotel IntelliGate can be connected to the DECT radio system DCT 1800 (Ascom Wireless Solutions product). The "Ascotel Mobility Interface (AMI)" is available for this purpose. Activation of the AMI functionality is subject to a licence.
- "Office 1560" / "Office 1560IP"
  One licence is required per client to operate the PC Operator. The licences are broken down according to type (Office 1560 or Office 1560IP) and platform. To enable the operator console groups of the Office 1560/1560IP you need the "OIP Call Centre" licence and for each client a "CTI Third Party Upgrade to Professional" licence.
- "Office 1600" / "Office 1600IP"
  One licence is required per client to operate the PC Phone. The licences are broken down according to type (Office 1600 or Office 1600IP). To enable the workgroups of the Office 1600/1600IP you need the "OIP Call Centre" licence and for each client a "CTI Third Party Upgrade to Professional" licence.
- "Trial Licence, Office 1560x, Office 1600x, CTI"
  This licence temporarily enables CTI clients and Office 1560/1560IP, Office 1600/1600IP. The number of clients is determined solely by the system limits. The licence is valid for 30 days once it has been generated on the licence server.
- "Basic Ascotel IntelliGate Net"
  This licence allows an Ascotel IntelliGate Net to be set up and operated with one Master and one satellite.
- "+1 Ascotel IntelliGate Net Satellite"
  An upgrade licence for each additional satellite is required to integrate more than one satellite in an Ascotel IntelliGate Net. An existing basic AIN licence has to be in place already.
- SIP Subscriber" / "SIP Access Channel"
  One "SIP Subscriber" licence is required per client to operate an SIP terminal on the Ascotel IntelliGate. Connecting the Ascotel IntelliGate to an SIP service provider requires one "SIP Access Channel".
- "Standard Voice Mail - Enhancement for 2 channels"
  Allows the high compression of the 2 Voice Mail channels of the standard Voice Mail System. This increases the total memory capacity considerably. The licence also enables the use of the Automated Attendant function.

Ascotel IntelliGate Net

In an AIN the Voice Mail licences are all acquired for the Master. The number of licences determines the maximum number of simultaneously active voice channels with high compression, regardless of the nodes on which they are currently being used. Requirement: The DSP resources on each node must be available and allocated accordingly.

- "VoIP Channel for Standard Media Switch"
  This licence enables the conversion of voice channels for VoIP - non VoIP connections and is used for IP terminals, SIP terminals, SIP access channels or to operate an Ascotel IntelliGate Net. High voice data compression is possible with the standard VoIP channels (G.729). One voice channel is activated with each licence.

Ascotel IntelliGate Net

In an AIN the licence can also be used for the connections between the nodes. Two VoIP channel licences are required for each node connection. The licences are always acquired for the Master. The number of licences determines the maximum number of simultaneously active conversions, regardless of the nodes on which they are currently being used. Requirement: The DSP resources on each node must be available and allocated accordingly.

- "GSM Subscriber"
  This licence is used to connect GSM subscribers to Ascotel IntelliGate. One licence has to be purchased for each GSM subscriber.
- "Universal Terminal Interface (UTI)"
  This licence allows the use of the UTI interface (Universal Telephony Interface) and therefore certain Ascotel functions to be controlled using defined DTMF shortcuts (Italy only Italien).

Overview of licences

Licence	Licensed attributes	Without licence	With licence	Includes licence
xQSIG channels	QSIG channels	0	x QSIG channels	
Upgrade from x to y QSIG channels	QSIG channels	x	y QSIG channels	
Upgrade from x to maximum QSIG channels	QSIG channels	x	Maximum number of QSIG channels	
Maximum QSIG channels	QSIG channels	0	Maximum number of QSIG channels	
OIP[1)]	Use of the Open Interfaces Platform	unavailable	enabled	
OIP Call Centre	ACD and Agent Manager	unavailable	enabled	OIP
CTI First Party via LAN	First-party CTI clients with basic functions on Ethernet interface	0	all internal subscribers	
CTI Third Party Basic	Third-Party CTI Clients with basic functions	0	all internal subscribers	OIP
CTI Third Party Standard[2)]	Third Party CTI Clients on standard CTI application	0	1 additional licence per client	OIP
CTI Third Party Upgrade to Professional[3)]	ACD features for Third Party CTI Clients on standard CTI application	0	1 additional licence per client	OIP
ATAS Interface for 2025/2045/150/300	Use of the ATAS interface	unavailable	enabled	
ATAS Interface for 2065	Use of the ATAS interface	unavailable	enabled	
ATASpro Interface for 2025/2045/150/300	Use of the ATASpro interface	unavailable	enabled	
ATASpro Interface for 2065	Use of the ATASpro interface	unavailable	enabled	

Licence	Licensed attributes	Without licence	With licence	Includes licence
Advanced Messaging	SMPP protocol for integration of an SMS server and registration of 9d handsets as system terminals.	unavailable	enabled	SMPP
SMPP[1)]	SMPP protocol	unavailable	enabled	
Ascotel Mobility Interface (AMI)	Functionality of the Ascotel Mobility Interface for connecting the DECT system DCT 1800	unavailable	enabled	
Office 1560 for 2025/2045/150/300	Simultaneous Office 1560 Clients on the system[4)]	0	1 additional licence per client	OIP
Office 1560 for 2065	Simultaneous Office 1560 Clients on the system[4)]	0	1 additional licence per client	OIP
Office 1560IP for 2025/2045/150/300	Simultaneous Office 1560IP Clients on the system[4)]	0	1 additional licence per client	OIP
Office 1560IP for 2065	Simultaneous Office 1560IP Clients on the system[4)]	0	1 additional licence per client	OIP
Office 1600	Simultaneous Office 1600 Clients on the system[5)]	0	1 additional licence per client	OIP
Office 1600IP	Simultaneous Office 1600IP Clients on the system[5)]	0	1 additional licence per client	OIP
Trial Licence, Office 1560x, Office 1600x, CTI	CTI, Office 1560/1560IP andOffice 1600/1600IP Clients	0	All internal subscribers for a period of 30 days	OIP
Basic Ascotel IntelliGate Net	Operatin of an AIN	unavailable	AIN with master and one satellite	
+1 Ascotel IntelliGate Net Satellite[6)]	Additional satellite in an AIN	0	1 additional satellite per licence	
SIP Subscriber	SIP subscriber	0	Per licence 1 additional SIP subscriber	
SIP Access Channel	Simultaneously usable channels to an SIP service provider	0	Per licence 1 additional SIP access channel	
Standard Voice Mail - Enhancement for 2 channels	Allows the simultaneous use of Voice Mail channels with voice compression	unavailable	Two channels with compression for each licence (more than two licences possible only in an AIN)	
VoIP Channel for Standard Media Switch	VoIP functionality	0	Per licence 1 additional VoIP channel	
GSM Subscriber	Logon to the system	0	Per licence 1 additional GSM subscriber	
Universal Terminal Interface (UTI)[7)]	Use of the UTI interface	unavailable	enabled	

1) this licence cannot be purchased separately; it is part of other licences

2) combinable with the “CTI Third Party Basic” licence

3) Upgrade to "CTI Third Party Standard" licence

4) without operator console groups

5) without workgroups

6) Upgrade to "Basic Ascotel IntelliGate Net" licence

7) For Italy only

List of Abbreviations

A

a/b	Analogue
ACD	Automatic Call Distribution
AD2	Ascotel digital two-wire
AIMS	Ascotel Information Management System
AIN	Ascotel IntelliGate Net
AIP	Ascotel IP Gateway
AKB	Alphanumerical Keyboard
AMI	Ascotel Mobility Interface
ATPS	Auxiliary Terminal Power Supply
AVS	Ascotel Voice Mail System

C

CC	Call Centre
CCBS	Completion of Calls to Busy Subscriber
CDE	Call Distribution Element
CFB	Call Forwarding Busy
CFNR	Call Forwarding on No Reply
CFU	Call Forwarding Unconditional
CLIP	Calling Line Identification Presentation
CNIP	Calling Name Identification Presentation
COLP	Connected Line Identification Presentation
CONP	Connected Name Identification Presentation
CT	Call Transfer
CTI	Computer Telephony Integration
CTX	Centrex

D

DDE	Dynamic Data Exchange
DDI	Direct Dialling In
DDO	Direct Dialling Out
DECT	Digital Enhanced Cordless Telephony
DSP	Digital Signal Processor
DSS1	Digital Subscriber Signalling 1
DTMF	Dual Tone Multi-Frequency

E

ECMA	European Computer Manufacturers' Association
EIB	European Installation Bus
EKP	Expansion keypad (EKP)
EMC	Electromagnetic compatibility
ETSI	European Telecommunications Standardisation Institute

F

FSK	Frequency Shift Keying

G

GAP	Generic Access Profile
GSM	Global System for Mobile Communication

I

ICC	Individual Charge Counting
ICL	Incoming Call Logging
IMP	Pulse dialling
IP	Internet Protocol
ISDN	Integrated Services Digital Network
IT	Information Technology
ITU	International Telecommunication Union
IVR	Interactive Voice Response

L

LAN	Local Area Network
LCR	Least Cost Routing
LDAP	Lightweight Directory Access Protocol
LED	Light Emitting Diode

O

OCL	Outgoing Call Logging
OIP	Open Interfaces Platform

P

PA	Pocket Adapter
PBX	Private Branch Exchange
PINX	Private Integrated Network Exchange
PISN	Private Integrated Services Network
PISN SC	PISN Subscriber
PNP	Private Numbering Plan
PoE	Power over Ethernet
PRA	Primary rate access (30B + D)

PSA	Paging system
PSI	Paging Interface (PI) (Paging System Interface)
PSS1	Private Signalling System1
PUM	Personal User Mobility

Q

QSIG	Signalling at reference point Q in accordance with ITU

S

S	S user-network interface
SC	Subscriber
Se	Basic access S external
SIP	Session Initiation Protocol
SMB	Small and medium-sized businesses
SMPT	Simple Mail Transfer Protocol
SVM	Standard Voice Mail System

T

T	Basic Access T
T2	Primary rate access T2
TAPI	Telephony Application Program Interface
TCP	Transmission Control Protocol
TFE	Door intercom system
TSD	Terminal Selection Digit
TSP	Telephony Service Provider
TSPI	Telephony Service Provider Interface

U

UG	User group
UMS	Unified Messaging
UPS	Uninterruptible Power Supply
UUS	User-to-User Signalling

V

V2	Proprietary protocol at the S interface
VAC	Volts of Alternating Current
VDC	Volts of Direct Current
VoIP	Voice over Internet Protocol
VoIP SC	VoIP subscriber

W

WAN	Wide Area Network
WiFi	Wireless Fidelity
WLAN	Wireless Local Area Network

Documents and Help Systems with Further Information

Product	Document
Ascotel IntelliGate 2025 / 2045 / 2065	System Manual
Ascotel IntelliGate	System Manual Features
Ascotel IntelliGate	System Manual Interfaces and Terminals
	Application Notes (technical information), FAQs and a compatibility list are all available on the internet support page at: https://pbxweb.aastra.com
AIMS	Installation instructions (readme file)
	Information Manager
	Operating Instructions for setting up a PC-PBX connection for Windows 2000 / XP
	Help system
	Application Notes
Upload Manager	Help system
System Event Manager	Help system
Project Manager	Operating Instructions
DECT	Operating Instructions DECT Planning
AVS Voice Mail System	System Manual
	Operating Instructions
	Quick User's Guide
	Help system
Standard Voice Mail System	Operating Instructions
Application interfaces	System Manual
	Help system
	User's guide First Party TAPI Service Provider
Networking	System Manual Ascotel IntelliGate Net
	System Manual PISN/QSIG Networking
	System Manual AIP 6400
IP system handsets	User's guide Office 35IP / Office 1600/1600IP Quick User's Guide Office 35IP
OfficeTerminals	Quick User's Guides for Office 10 / Office 25 / Office 35 / Office 45/ 45pro / Office 135/135pro / Office 160pro
	User's guides for Office 10 / Office 25 / Office 35 / Office 45/45pro / Office 135/135pro / Office 160pro
	Function overview
	System Assistant Operating Instructions Office 45
PC Operator Console	Quick User's Guide Office 1560/1560IP
	Help system
GSM Terminals	Quick User's Guide GSM Terminal on Ascotel IntelliGate

Documents on the Internet: http://www1.aastra.com/docfinder

Ascotel IntelliGate 2025/2045/2065 benefits and options:

- Future-oriented communications platform with integrated Voice over IP (VoIP) functionality
- Suitable for companies from all sectors
- Modular expansion and upgrade path
- Optimised everyday use thanks to a broad range of terminals with intuitive user guidance
- Wide range of advanced features and team functions for efficient working
- Compact design telephone handset range
- Direct connection of IP telephone terminals
- Fully integrated cordless telephony (DECT) for availability throughout the company's premises
- Possibility to integrate external terminals (e.g. mobile telephones) as internal subscribers
- Support of Voice over Wireless LAN-Components
- SIP compatible for trunk lines and terminals
- Integrated, highly-functional voice mail system
- Integrated automatic call switching (Auto Attendant)
- Call-Center
- CTI functions: Name selection, Clip display, Microsoft® Outlook® calendar notification on Office telephones
- E-mail notification of waiting voice messages
- Link to external directories/contact databases (e.g. Microsoft® Exchange, Microsoft® Outlook®, telephone book CD)
- Alarm generation solutions (e.g. in production environments)
- Flexible linking of a wide range of third-party applications via standardised interfaces (TAPI, Corba)
- Fully featured transparent networking for up to 41 systems or sites using Voice over IP
- Efficient system management
- Remote maintenance/remote alarm system possible
- Wall and rack mounting version available

Certified Quality System

ISO 9001/EN 29001
Reg. No. 10318-03

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Product availability and technical specifications subject to change without notice.

Aastra Telecom Schweiz AG
Ziegelmattstrasse 1
CH-4503 Solothurn
T +41 32 655 33 33
F +41 32 655 33 55
www.aastra.com

Aastra Telecom (UK) Limited
Unit B3, Armstrong Mall
Southwood Business Park
Farnborough
Hampshire GU14 0NR
T +44 (0)870 300 3435
F +44 (0)1252 532 101
www.aastra.co.uk
info.uk@aastra.com

Other companies and subsidiaries in:
Austria, Belgium, Cyprus, Denmark, Finland, France, Germany, Holland, Italy, Norway, Portugal, Spain, Sweden.